International Swedenborg Congress

1910

Digitized by the Internet Archive
in 2025

https://archive.org/details/bwb_T3-BOA-235

TRANSACTIONS OF THE INTERNATIONAL SWEDENBORG CONGRESS 1910

HIS MAJESTY GUSTAF V, KING OF SWEDEN, [*Frontispiece*
Patron of the International Swedenborg Congress

TRANSACTIONS

OF THE

INTERNATIONAL SWEDENBORG CONGRESS

HELD IN CONNECTION WITH THE CELEBRATION

OF THE

SWEDENBORG SOCIETY'S CENTENARY

LONDON, JULY 4 TO 8, 1910

THIRD EDITION

(Sixth Thousand)

THE SWEDENBORG SOCIETY

(INSTITUTED 1810)

1 BLOOMSBURY STREET, LONDON

1912

PREFACE

The International Swedenborg Congress was held to celebrate the hundredth anniversary of the foundation of the Swedenborg Society, and consisted of about four hundred representatives from the United Kingdom, the United States of America, Canada, Australia, India, France, Germany, Austria, Switzerland, Spain, Sweden, Norway, Belgium, and Holland.

The actual day on which the Society was founded was the 26th of February, 1810.

This volume contains the papers read before the Congress and a brief record of its proceedings. Also a paper by Miss Ekelöf, printed in the Appendix, which time did not permit to be read.

CONTENTS

PAGE

List of the Illustrations ix
Key to the Abbreviated Titles of Swedenborg's Works xi
Officials of the Congress xiii
Rules of Procedure xv

SECTION I.—SCIENCE.

Reception Meeting 1
Opening Session 1
President's Inaugural Address 1
Address: Count Wrangel 15
Latin Addresses, read by Dr. Andersson 16
Address: Prof. Lönnberg 18
Address: Prof. Sjögren 25
Address: Commodore Sundström 29
Address: Prof. Henschen 30
Address: Prof. Ramström 34
Address: Mr. A. H. Stroh 39
Address: Prof. Neuburger 40
Chairman's Address: Rev. J. R. Rendell 41
Swedenborg on the Spinal Cord: Prof. Neuburger . . 50
Swedenborg on the Cerebral Cortex as the Seat of Psychical Activity: Prof. Ramström 56
Swedenborg as Cosmologist: Rev. Prof. Tansley . . 70
Swedenborg on the Ductless Glands, with Modern Confirmations: Dr. Goyder 85
On the Motion of the Brain, with Special Reference to the Views of Emanuel Swedenborg: Dr. Rabagliati . . 100
Some Important Accordances between Swedenborg and Modern Physiologists: Prof. Neuburger 117
Swedenborg's Remarkable Scientific Anticipations: Dr. Rabagliati 125

SECTION II.—PHILOSOPHY.

Chairman's Address: Rev. Dr. Sewall 135
Some Indications of Swedenborg's Influence on Swedish and German Thought: Mr. Hj. Kylén 142
Swedenborg's Contributions to Psychology: Mr. A. H. Stroh . 151

PAGE

The Spiritual World Non-Spatial yet Organic: Mr. J. H. Spalding 164
Ultimate Reality: Rev. L. F. Hite 169
Influx and Degrees: Mr. F. W. Richardson . . . 193
Garden Party 209

SECTION III.—THEOLOGY.

President's Inaugural Address (*concluded*) . . . 213
Chairman's Address: Rev. W. A. Presland . . . 219
The Nature of Swedenborg's Illumination: Rev. J. K. Smyth 221
Swedenborg's Teaching on the Divinity and Humanity of Jesus Christ: Rev. J. Reed 235
Exegesis and Swedenborg's Doctrine of Correspondence: Rev. J. F. Buss 244
Indications Confirmatory of a Primal Religion: Rev. W. T. Stonestreet 259
Swedenborg the Philosopher and Theologian: Rev. R. R. Rodgers 269
Chairman's Address: Rev. S. S. Seward 284
Swedenborg's Eschatology: Rev. J. J. Thornton . . 285
Divine Providence and Human Freedom: The Hon. Job Barnard 301
Swedenborg on the "Maximus Homo": Rev. H. G. Drummond 310
Swedenborg's Doctrine of Uses: Rev. L. G. Hoeck . . 320
Changed Attitude Towards Swedenborg: The President . 329
Conversazione 334

APPENDIX.

History of Swedenborg's MSS. preserved in the Library of the Royal Swedish Academy of Sciences and other Swedish Libraries: Miss Greta Ekelöf . . . 337
Notes to Mr. Hjalmar Kylén's Paper 352
Languages in which Some or All of Swedenborg's Works have been Issued 355
Directory of Officials and Members of the Congress . 356
Exhibition of Swedenborgiana, Portraits, MSS., Books, Curios, etc. 366

LIST OF THE ILLUSTRATIONS

	PAGE
His Majesty Gustaf V, King of Sweden, Patron	*Frontispiece*
The Reception Meeting, King's Hall	1
E. J. Broadfield, Esq., LL.D., President	1
Platform Group, King's Hall, Tuesday Morning	15
His Excellency Count Wrangel, Honorary President	15
Dr. Aksel Andersson	16
Prof. Einar Lönnberg	19
Prof. Hj. Sjögren	25
Commodore Sundström	29
Prof. S. E. Henschen	30
Prof. A. G. Nathorst	32
Bust of Swedenborg, by Prof. J. W. Hultkrantz	38
Profile of Bust	38
Three-quarters Front View of Bust	38
Flying Machine	45
Conveyor, or Machine for Raising Minerals	46
Pump Worked by Column of Water	46
Mercurial Air-Pump	46
Magnetic Attraction	49
Magnetic Needles in Field of Force	49
Magnetic Needles Free to Move in a Field of no Force	49
Rough Piece of Iron before it has been Magnetized	50
The Iron after it has been Magnetized	50
Prof. O. Martin Ramström	56
Central Cavity of the Brain	63
Fibres of Optic Nerve	63
Formation of Image on the Retina	64
Production of Sensation in the Soul	64
Under-side of Brain, Willis, 1681	64
Left Side of Brain Surface, Tolot's Atlas	64
Structure of Interior of Brain, Tolte's Atlas	64
Fibres of Medullary Substance	64
Middle Portion of Medullary Substance	65
Nebulæ of Orion	76
Spiral Nebula	77
Nebula of Andromeda	77
Spiral Nebula in Trianculum	78
Ring Nebula in Lyra	78

PAGE
Chaos of Solar Crust, and its State of Separation . . 79
Same Crust expanded into a Larger Ring 79
State of Disruption and Collapse of Crust 79
Crust Collapsed into the Form of a Zone 79
Formation of the Bodies into Globes after Disruption of the Zone 79
The same Bodies issuing from the Sun, and veering towards the Circle of their Orbit 79
Earth projected from Sun. Flammarion 79
Right and Left Suprarenal Capsules 86
The Spleen, Liver, Gall, Bladder, etc. 86
The Thyroid and Thymus Glands 88
Longitudinal Section of Skull, showing Pituitary Gland . 90
Cretinism. Prof. Osler's Case. Before Treatment . . 92
The Child after Four Months' Treatment 92
The Child after Eleven Months' Treatment 92
Cretinous Child before and after Treatment by Thyroid Extract 94
Case of Cretinism aged 25 years 96
Case of Myxœdema: Man 98
Case of Myxœdema: Woman 99
Prof. Max Neuburger 117
Rev. Frank Sewall, M.A., D.D. 135
Mr. Hj. Kylén 142
Mr. Alfred H. Stroh, M.A. 151
Rev. Lewis Field Hite, M.A. 169
Some Principal Visitors and Swedenborg Society's Committee 209
The Garden Party, Bishopswood, Highgate 209
Rev. Julian K. Smyth, M.A. 221
Rev. James Reed 235
Prof. Gustaf Retzius 258
Rev. Samuel S. Seward 284
The Hon. Job Barnard 301
Group at Conversazione, the final meeting 334
Dr. L. E. Calleja 338
Rev. Joseph E. Werren 340
Rev. Charles Byse 342
Rev. John Goddard 344
Rev. G. L. Landenberger 348
Daisetz Teitaro Suzuki 352
Rev. C. J. N. Manby 354

Key to the Abbreviated Titles appended to the Extracts from Swedenborg's Works

A.C. . . .	Arcana Cœlestia
A.E. . . .	Apocalypse Explained
A.R. . . .	Apocalypse Revealed
C.L. . . .	Conjugial Love
D.L.W. . . .	Divine Love and Wisdom
D. Love . .	On the Divine Love (posthumous)
D.P.	Divine Providence
D. Wis. . .	On the Divine Wisdom (posthumous)
H.H. . . .	Heaven and Hell
L.J. . . .	Last Judgment
L.J. post . .	Last Judgment (posthumous)
Œc.R.A. . .	Economy of the Animal Kingdom
S.D. . . .	Spiritual Diary
T.C.R. . .	True Christian Religion

OFFICIALS OF THE CONGRESS

PATRON:

His Majesty the King of Sweden.

HONORARY PRESIDENT:

His Excellency Count Wrangel, G.C.V.O.,
Representative of the Swedish House of Nobles.

PRESIDENT:

E. J. Broadfield, Esq., LL.D.

VICE-PRESIDENTS:

The Right Hon. Sir William Mather, P.C., LL.D., London.
Sir Thomas H. Elliott, K.C.B., London.
Commodore Sundström, late of Swedish Royal Navy, Stockholm.
The Hon. Job Barnard, Judge in Supreme Court of D.C. Washington.
The Hon. John Bigelow, New York.
The Hon. Francis J. Worcester, New York.
Colonel R. K. Bevington, London.
Prof. Gustaf Retzius, Stockholm, Chairman of Swedenborg Committee of Royal Swedish Academy of Sciences.
Prof. A. G. Nathorst, Superintendent, State Museum for Fossil Plants, Stockholm.
Prof. Sv. Arrhenius, Principal of the Nobel Institute for Physical Chemistry, Stockholm.
Prof. C.. G. Santesson, Professor of Pharmacology, Caroline Institute, Stockholm.
Prof. S. E. Henschen, Professor of Clinical Medicine, Caroline Institute, Stockholm.
Prof. Peter Klason, Stockholm.
Prof. Magnus Nyrén, Stockholm.
Prof. Hj. Sjögren, Superintendent, State Museum for Mineralogy, Stockholm.
Prof. Einar Lönnberg, Superintendent, State Museum for Zoology Stockholm.

Prof. O. M. Ramström, Professor of Anatomy, Upsala University, Sweden.
Dr. Aksel Andersson, Librarian, Upsala University, Sweden.
Prof. Dr. Max Neuburger, Professor of the History of Medicine, Vienna University.
Herr Hj. Kylén, Kungsholms Realskola, Stockholm.
Prof. M. R. Bhatt, Director of Public Instruction, Bhavnagar, Bombay Presidency, India.
Prof. W. F. Barrett, F.R.S., late Professor of Physics, Royal College of Science, Dublin.
Prof. H. Langford Warren, Professor of Architecture, Harvard University, Mass.
Dr. L. E. Calleja, Guadalajara, Mexico.
Daisetz Teitaro Suzuki, Tokyo, Japan.
Rev. Julian K. Smyth, M.A., New York.
Rev. Joseph Deans, London.
Rev. R. R. Rodgers, Birmingham.
Gerrit Barger, Esq., British Vice-Consul, The Hague.
E. H. Bayley, Esq., J.P., London.
R. Storry Deans, Esq., LL.B., London.
D. Goyder, Esq., M.D., L.R.C.S. (Edin.), Bradford.
Martin Harvey, Esq., London.
Julian Hawthorne, Esq., New York.
Henry James, Esq., London.
W. D. Howells, Esq., New York.
A. Rabagliati, Esq., M.D., M.A., F.R.C.S. (Edin.), Bradford.
F. W. Richardson, Esq., F.I.C., F.C.S., Bradford.
Alfred H. Stroh, Esq., M.A., Stockholm.
Captain G. W. E. Swedenborg, Östersund, Sweden.
G. Harry Wallis, Esq., The Museum, Nottingham Castle, Nottingham.
Robert M. Paterson, Esq., Paisley.
J. Stuart Bogg, Esq., Altrincham.
Andrew Eadie, Esq., Glasgow.
Jonathan Robinson, Esq., Manchester.
David Wynter, Esq., London.

THE EXECUTIVE COMMITTEE OF THE CONGRESS:

Mr. F. A. Gardiner, *Chairman.* Mr. E. G. Dow.
Mr. F. Black. Mr. D. Wynter.

Mr. J. Speirs, *Secretary.*

CHAIRMEN OF SECTIONS:

Section I.—Science: Rev. J. R. Rendell, B.A.
Section II.—Philosophy: Rev. F. Sewall, M.A., D.D.
Section III.—Theology: { First day, Rev. W. A. Presland. / Second day, Rev. S. S. Seward.

GENERAL SECRETARY:

Mr. James Speirs, 1, Bloomsbury Street, W.C.

SECRETARIES OF SECTIONS:

Section I.—Rev. I. Tansley, B.A., 240, South Norwood Hill, S.E.

Section II.—Mr. J. Howard Spalding, 4, Westbury Road, Ealing, W.

Section III.—Rev. A. Wilde, 16, Berkeley Road, Crouch End, N.

COMMITTEE OF THE SWEDENBORG SOCIETY, 1910-11

Mr. D. Wynter, *Chairman.*
Mr. E. G. Dow, *Vice-Chairman.*
Mr. F. A. Gardiner, F.L.S., *Treasurer.*
Mr. James Speirs, *Secretary.*

Mr. Edward H. Bayley, J.P.
Mr. Frank Bayley, M.A.
Mr. Francis Black, R.B.A.
Rev. Joseph Deans.
Mr. James Gilbey.
Mr. Charles Higham.
Mr. Robert Jobson.
Rev. W. A. Presland.
Mr. J. Howard Spalding.
Rev. I. Tansley, B.A.

RULES OF PROCEDURE.

The time available for discussion being extremely brief, the following Rules will be observed :—

1.—No one will be entitled to join in the discussions except at the call of the Chairman for the time being.

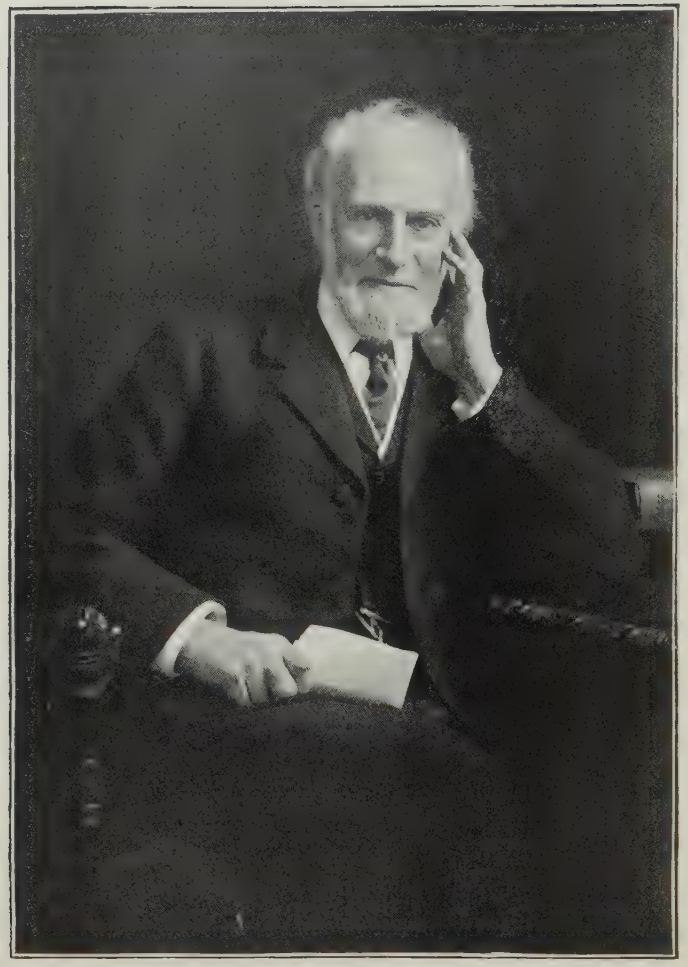
2.—Members who desire to take part in the discussions must submit their names, in writing or by card, to the Chairman or Secretary of the Section, indicating the subject on which they wish to speak.

3.—All speakers must address the Chair from the platform.

4.—The Chairman will state at his discretion the time limit for speeches, including the replies of the readers of papers.

5.—The order stated in the Programme for the reading of the papers may be varied at any Session at the discretion of the Chairman. The authors of the papers should, therefore, be prepared to read them when called for.

THE RECEPTION MEETING, KIN



EDWARD JOHN BROADFIELD, ESQ., LL.D., [p 1
President of the International Swedenborg Congress

THE INTERNATIONAL SWEDENBORG CONGRESS

RECEPTION MEETING

Monday, July 4th, 1910.

A MEETING was held on Monday evening, at which, after the PRESIDENT, Mr. E. J. Broadfield, LL.D., had met the members of the Swedenborg Society's Committee and the Vice-Presidents, he received, assisted on his arrival by the Honorary President, His Excellency Count Wrangel, all the members of the Congress who were present. Music, vocal and instrumental, was performed at intervals, some of the items being American and Swedish national airs in honour of the guests.

OPENING SESSION

Tuesday, July 5th.

The PRESIDENT took the chair and delivered his inaugural address.

My first duty is to welcome you all, representatives and visitors, in the name of the Swedenborg Society. The occasion is memorable. We are not here, as you know, in any sense as a denomination. There is nothing sectarian about our Congress. We have called it International, but I am not sure whether we might not accurately call it International and Imperial; for while we have representatives from England, Scotland, Ireland and Wales, from the United States of America, from Mexico, from the three Scandinavian nations—Sweden, Norway and Denmark—from Holland, Belgium, Germany, Austria, France and Spain, we have also visitors from our Dominions across the seas, from Canada and Australasia. We are here honouring Swedenborg, probably from different points of view. There are some who regard him as an illustrious and far-seeing man of science; others who honour him as a luminous and original philosopher; and a still larger number who look to him as an enlightened seer and a Heaven-directed theologian. But we all agree that he was a many-sided man, one of the profoundest

students of his century, and, to adopt the words of Frederick Denison Maurice, we all recognize him as one of the great geniuses of his age. But whether you look at Swedenborg as a poet, as a philosopher, as a man of science, or as a theologian, you find in his career and in the successive ranges of his studies and investigations a remarkable series of well-defined gradations. He advanced from stage to stage, but every stage was preparatory to its successor; and those of us who consider his Illumination as the starting-point of his greatest period, recognize in all his previous experience an all-embracing time of preparation. In thinking of him merely as a subject of biography, one is reminded of a great mountain rising from the plain, stately and symmetrical when seen from a distance, on which, as we approach nearer, we see peak rising above peak, and so much grandeur hitherto unsuspected that we find it difficult to make anything like a general survey. Something like this, I think, all who ever made a systematic study of the life and works of Swedenborg must have felt. And the more closely we follow the incidents of his career, the more confidently may we say that during his eighty years he wore untarnished the white flower of a blameless life. He was unspoiled by fame. The favour of kings and princes never impaired his modesty, and the recognition of the splendour of his achievements never excited his vanity. He never claimed priority in discovery, though others have often, with perfect justification, done this for him; and this modesty was characteristic of him throughout life. From the first, too, in his studies in science and philosophy, he recognized the supreme power of an all-loving, Infinite Deity, and he never seemed to think that he had finished his inquiries unless he had discovered from them something to help his fellow creatures. He strove always, indeed, for the practical; and perhaps many here present will be surprised to hear of the extent of his powers of invention. The list of his discoveries, descriptions of which he always wrote down carefully, is almost unparalleled; and as a man of science his range of study extended from Mathematics and Physics to Astronomy, Mineralogy, Chemistry, Metallurgy, Anatomy, Physiology, Geology and Natural History. As a philosopher he studied all the systems known to his own time; and his own contributions to the study of different branches of philosophy were both far-reaching and original. Then he was a politician, an economist, a practical student of currency and finance, and in all these subjects he achieved distinction.

I can only briefly refer to the chief events of his life. He was born at Stockholm in 1688. He was the child of pious parents. From the age of four to ten, as he tells us in later years, his delight was to hear and speak of God. He seems to have been but slightly under the influence of the theology of the time. We do not know much about his school days; but at the University he was unquestionably a brilliant student. This is proved by the dissertations he wrote and by the result of his studies in after years. A dissertation, written when he left college at the age of 20, was thought so important that it was published; and the document is a proof that the University of Upsala in those days was enlightened in its methods in secondary and higher education. By this time his father had become the Bishop of Skara, and some of Swedenborg's most graceful poetry is dedicated to him. But he found the sphere of his father's home too restricted, and longed for wider fields of investigation; yet he was never idle, and he had his own amusements, while he devoted himself closely to study. He delighted in music; and in the absence of the organist at his father's church frequently took the service. It was an epoch in his life when he became acquainted with Polhem, the Archimedes of the North, the distinguished Councillor of Commerce. This great man took a fancy to the young student, discussed his inventions with him and treated him as a friend and equal. But Swedenborg longed to go abroad; and in 1710, just two hundred years ago, he came to London, and the notes—I wish we had more of them—of his experience in London are very interesting. He speaks with delight of seeing the great Cathedral of St. Paul, then just completed, and he also went to Westminster Abbey, where he came suddenly to the tomb of Casaubon. He felt such deep emotion at the sight of it that he bent and kissed the marble, and afterwards wrote two charming Latin couplets in memory of him. This youthful devotion to Casaubon is very interesting, and throws great light on Swedenborg as a scholar and poet, his attainments as such having sometimes, perhaps, been under-rated. Casaubon was neither an astronomer nor a man of science, but he was the greatest scholar of his time, and after the death of Scaliger, was recognized as supreme in this respect. He had been courted by Kings, though brought up at Geneva under Calvinistic influences. He went to France, and King Henry IV invited him to his presence and made him almost a friend, wishing Casaubon to help him in his resistance to the Puritan reaction; and our pedant King, James I, was

even inconveniently effusive and impressive in his admiration. This reverence for Casaubon shows Swedenborg's devotion to scholarship, and to the old Greek and Latin classics; a devotion apparent not only in his philosophical and scientific writings, but occasionally in his theological works also. As I said, Swedenborg was a fine poet, if not a great poet, as Count Höpken called him; his verses are by turns national, patriotic, fraternal and filial. I gave, not long ago, a copy of his polished version of the 12th chapter of Ecclesiastes to one of the most accomplished scholars I know, and his estimate of it was quite eulogistic. He said the Latin was graceful and finished in style, and might be compared not unfavourably with that of Milton. The published English translations of his other poems display both imagination and fine feeling. I have a list of the English poets Swedenborg studied for the cultivation of the imagination, among them being Shakespeare, Spenser, Ben Jonson, Beaumont and Fletcher, Milton, Dryden, Cowley and some others; so that he had some acquaintance with good English poetry. There is another thing which interests us in this visit to London two hundred years ago. "I want to see Newton," he said; "I cannot talk English well enough yet, but I study him every day." Though so young he was recognized by the Literary Society of Upsala as a representative man, and they asked him to visit Flamsteed, the famous English astronomer, in their name. At Oxford he made the acquaintance of Halley, whose name has been so familiar lately in connection with the famous comet. Halley believed in Swedenborg's method for discovering terrestrial longitude by lunar observations; and the old and young astronomers were in frequent communication in after years. These are only a few of the incidents of Swedenborg's visits to London and Oxford at this early time. From England he went to Holland and afterwards to Paris. He did not see as much of Paris then, and did not study its institutions so closely as he did in later years; but in Holland he was fortunate enough to be present at the time of the Treaty of Utrecht which ended the war of the Spanish Succession. He saw some great men there and made very interesting notes.

I have already referred to his remarkable inventive powers. These had fuller play after his return, for his hand and eye had evidently been carefully trained. Let me give you a list of some of his accomplishments. He mastered bookbinding and could bind his own books; he was a skilful engraver, and he was able to manufacture lenses. He designed

a very successful ear-trumpet, invented a new stove, and worked out a plan for the heating of rooms. There is something very interesting about this stove, because I believe that in America, which is supposed to be the special home of invention, there was a patent for a new stove applied for some years ago, when it was discovered that Swedenborg had described the design of this very stove two hundred years ago, and the applicant did not get his patent. Then he invented an incipient steam engine and a magazine air-gun. Another discovery in the list surprised me very much—I have not seen the description of it, but it is spoken of as a machine by which any one who did not know music and had the notes before him could play. What is that but a pianola? He invented a submarine destroyer by which ships could be attacked under water. He sketched the plan of a flying machine, a machine by which "men could raise themselves and move about in the air." Polhem, his friend, did not believe it possible to construct a machine by which a man could fly, and said, "I think you had better leave that. I should class it with the philosopher's stone and perpetual motion." I have been told that Mr. Rendell intends to produce some time during the week a model of this aeroplane. I am not in the confidence of the reverend gentleman as to this, but he will perhaps forgive my saying that if he intends to produce it as a practicable machine at the garden party this week, I hope he will not invite the President of this Congress to attempt the first flight. There were more important subjects of his invention than this, however. He had a machine for the manufacture of salt, and methods of working salt springs most practical in use, and designs for the construction of docks which were found very useful; and he and Polhem worked out the first plans for the famous Gotha Canal. Even in his latest years, when he was a very old man, he submitted to the Society in Stockholm a plan for the inlaying of marble tables and ornaments. He did not abandon his studies during these years of inventive life; but the inventions I have been speaking of were almost restricted to the time before 1744. When he came back from his first travels he worked regularly with Polhem, and issued a magazine, *Dædalus Hyperboreus*, in which the inventions of Polhem were described, and full accounts of his own inventions also appeared. King Charles XII saw it and was deeply interested. He frequently sought Swedenborg's company and associated with him almost like a personal friend. The King was a keen mathematician and a master of mechanics, and wishing to place Swedenborg in an

official position, he offered him a Professorship. "No," said Swedenborg, "I have not the gift of teaching"; in fact, he was not fluent of speech. Then the King offered him an Extraordinary Assessorship of the Government Board of Mines. He accepted it believing that he could do useful work at the Board, as he knew that the other members were not well acquainted with the laws of Mechanics and Physics. Henceforward he displayed constant devotion and zeal for the work, and the value of his services was constantly recognized. An incident took place about this time for which Swedenborg is perhaps given too much credit; I mean when he transported three or four sloops and other large vessels over fourteen miles of morass and hills to assist King Charles in the siege of Frederickshall; for Polhem shared the glory of this achievement, if he did not design it. Swedenborg did, however, direct the operation, which was successful, for it enabled the King to carry out a military plan, which he could not have done but for the vessels sent to him. Swedenborg travelled again when he had worked for some time as Assessor. His object was to obtain additional knowledge of the art of smelting and assaying, that he might give fresh information to the mining industry in Sweden.

At this point Count Wrangel, the Swedish Minister, arrived and was received with loud applause.

The PRESIDENT: I am sure in your name I may offer a welcome to Count Wrangel, the Swedish Minister, who comes here to represent the House of Nobles, a body to which Swedenborg belonged. Resuming his address, the President said: The reports Swedenborg sent of his visits to mines in Germany and Bohemia are marvels of minute and careful observation and of extensive scientific knowledge. He seems to have been well acquainted with the mysteries of smelting and assaying, and with the methods employed in different countries. But in addition to the desire of gaining greater knowledge and experience of mining, there was another reason for Swedenborg's wishing to go abroad from time to time, one to which I am almost afraid of referring in the presence of so many distinguished Swedes. He found it difficult to get his scientific books printed in Sweden; so he went to Amsterdam and afterwards to London, where he was able to secure superior advantages. For his time he was a great traveller, often spending several successive years abroad. His accounts of his travels and his descriptions of men and manners, in notes and letters, are very interesting, notably his comments on what he saw in Paris—where he

almost predicted the great Revolution. We might follow him to Denmark, Holland, and Belgium, to Italy and Germany, to Bohemia and Saxony. He visited Paris, Milan, Florence, Rome, Venice, Vicenza, Dresden, Berlin and other cities, and saw the churches, palaces, galleries and gardens that charm us now; and though he was always a student of men and manners and institutions, and devoted much time to discussions with learned men, and reading important works in great libraries on the various branches of science and philosophy in which he was for the time specially interested. He was no ascetic. He enjoyed the theatre and the opera, and his notes of the performances, including those of the male dancers in the ballets, though brief, are written in the style of a competent critic. He continued his travels, which occupied many years of his life, until he was eighty-four, and, as you know, died in London. I must pass these by, interesting as it would be to deal with them in detail; but I may perhaps properly quote what was said of him as a traveller in the Eulogium of Sandels after his death, that "of all that could fix the attention of a traveller nothing escaped him."

I spoke of his friendly relations with Charles XII, which continued until the King's death, and he was honoured by the monarchs who succeeded King Charles, often in a special manner. When he went to Germany, in 1721, he was befriended by the Duke of Brunswick, who paid the expense of the publication of more than one of his important scientific works. One of the first of these was a treatise on Chemistry. He had mastered all that was known of Chemistry in his time, and by his thoughtful suggestions he anticipated some of the discoveries of later days; he was the first to recognize that what he called the "particles" were spherical: Dumas, the great French chemist, said this discovery was the foundation of the science of crystallography. The work he wrote on Chemistry was supplemented in 1722 by one entitled *Miscellaneous Observations on the Things of Nature*, in which he gives a geometrical explanation of the laws of nature, and among other things he showed that the same forces were at work in the making of a particle as in the creation of the Universe. This book is interesting for many other reasons. It dealt especially with minerals, with fire, and with the strata of mountains; it was recognized by the most renowned men of science in Europe as a great achievement, and about that time the President of our Royal Society, Sir Hans Sloane, invited him to become a correspond-

ing member. The discoveries described in the *Miscellaneous Observations on the Things of Nature* have been called the foundation of geology as we understand it now, though many of his opinions and theories were certainly incorrect.

In 1716 he was made an ordinary assessor of the Board of Mines at a full salary, his title being the "Well-born Assessor Swedenborg," and in State documents he is always referred to in these terms. He was asked again, about this time, to become a Professor of the University, but he declined, preferring to continue his studies and practical work. In 1719 he was ennobled by Queen Ulrica Eleonora, and took the name of Swedenborg, the family name having been Swedberg previously. As a member of the House of Nobles he took an active part in many of its deliberations, and some of the State papers he has left are said to be unrivalled in importance, extent and variety. He advocated the adoption of the Decimal system. He, with others, took a prominent part in a successful opposition to an attempt to revive the despotic power of the King. He conspicuously and successfully resisted a proposal cleverly put forward to make all the great offices of Sweden, except the ecclesiastical and military, of short service, not more than two or three years. He initiated and directed an endeavour to put the iron mining of Sweden on a better basis, and showed that they were wasting their resources by caring too much for silver and copper mining at the expense of iron, the production of which would employ more men. He was extremely anxious to extend the benefits to be derived from mining and everything else that would tend to the welfare of a greater number of people. "Why do you send," he said, "your iron to be rolled elsewhere; why should not your own people do it?" He went to Liége to master the methods of the rolling-mills there, and described them very minutely. He wrote a masterly paper on the necessity of a metallic basis of currency. Sweden suffered from the mischief of an unconvertible paper currency. Swedenborg proved also that it was essential to the welfare of Sweden that her exports should at least equal her imports, so that the Government might be able to pay their way without constantly borrowing money. In looking through his political and economic papers we are reminded indeed of some of the controversies of to-day. One of the most important of his public appeals still extant, was on the liquor traffic. He held very strong views about this. He said the excessive consumption of liquor was a curse to Sweden and prevented

it from becoming a great commercial and agricultural nation; and suggested a plan under which, instead of allowing spirits to be sold indoors, they might be distributed in the same way as bread at the bakers' shops, that is, from out-of-door counters, to which customers might go and buy drink. "If you cannot do away with the traffic altogether," he said, "try my plan." He said further, "Your distilleries are consuming and wasting the corn that ought to be used for better purposes. If you cannot do away with the distillation let the Government alone have the right to distil, so that the income of the nation may be increased." Both plans were adopted, and I think the first of them led to the Gothenburg system which Mr. Chamberlain unsuccessfully proposed in the first year of his career as a Member of Parliament. So in Sweden they are now to some extent carrying out the principle laid down by Swedenborg nearly two hundred years ago. I have said enough to show that he took a practical interest in politics. He never, indeed, forgot his duty as a Swedish citizen, and wherever he was, whatever he was doing or studying, he never ceased to be a devoted son of Sweden.

The time came when he was to come before his countrymen and the world as a philosopher. In many papers he had written on various subjects there had been traces of his close acquaintance with the philosophy of the time. It may be that the statements of some historians as to the disastrous state of public opinion, not only in Sweden but in Europe generally, with regard to philosophy at that time were greatly exaggerated. It is true that materialism had many advocates, but the philosophers who mainly influenced Sweden and many other European nations were Descartes and Leibnitz. Descartes was a man who recognized the necessity of belief in and acknowledgment of the Deity. In his view a good life was essential to happiness, and though his philosophical opinions, which had great influence at the time, were not based on sound knowledge and deep insight, he was always an earnest truth-seeker. Nothing, he said, would lead a man into impurity of life so much as the refusal to acknowledge an all-loving God; and next to that as a dangerous influence was the belief that the souls of men were no higher than those of animals. He thought he could prove the existence of God from reason and observation. He did, indeed, clearly prove the existence of a higher Power, but not of God as an Infinite all-wise Being. Leibnitz was still living when Swedenborg began to study

philosophy, and the two men had wished to meet, though they never did. Leibnitz was assuredly an earnest student and a very amiable man, but he had too much confidence in his own powers. He believed that it was possible to reconcile reason and faith, as faith was understood by the two great Churches, and that he could bring the Churches of Rome and Geneva into harmonious concord; his dreams, however, were soon seen to be baseless. There were many things in the systems of both Descartes and Leibnitz that commended themselves to Swedenborg. At that time there was a great dispute as to the nature of the connection between the body and the soul. There were many men in those days who were avowed materialists. They said, "There is nothing but matter, and all your sensations and intellectual experience are only affections of matter." There were others who said, "There is nothing but spirit. You know nothing about matter except what the mind tells you, except what you learn by your intellect; therefore there is nothing but spirit and there is no such thing as matter." Incidental to these views were fundamental differences as to physical sensation. Some thought it came from within, that is, from the soul. Others said it came from the outside, and was solely effected by the external world and the senses. In 1734 Swedenborg wrote an important work entitled *Outlines of a philosophical argument on the Infinite*, in which he discussed this momentously important philosophical question. He said, There is only one power, the Infinite; but the Infinite cannot as such be in contact with the finite, because there is no *ratio*, nor, therefore, relation between them. The finite is under the laws of time and space, which do not affect the Infinite; but spirit is neither infinite nor under the laws of space and time. He was perplexed in his effort to understand how the spirit could be finite if not under the laws of space and time, and to conceive how there could be an intermediate between the finite and the Infinite. He accordingly advanced the theory that there must be two kinds of spirit, higher and lower, and that the lower kind ceased to exist when man died, but the higher remained. Yet how could spirits of any kind approach the Deity if, being finite, they were bound by the laws of space and time? To overcome the difficulty he imagined there must be an intermediate between the finite and the Infinite, and that the Only Begotten would employ angels to become the medium between spirits and the Infinite. This was very different from Leibnitz's hypothesis of a pre-established harmony.

But Swedenborg did not then see, as he did afterwards, that there is a distinct and immutable difference between the material body and spirit, between matter and mind; that man is a spiritual being, and, that when he is rid of this body, spirit itself is the intermediate; that though finite it is not subject to the laws of time and space, and that the love of God directly affects the spirit. The contrast between the philosophy of the *Outlines*, reverent and enlightened as it is, and the doctrines set forth in the *Divine Love and Wisdom* and the work on *Influx*, is a wonderful illustration of the difference between what Swedenborg discovered and what he "saw and heard" when his spiritual eyes were opened.

About the same time that the *Outlines* appeared, Swedenborg published a great philosophical work which had cost him many years of close study and investigation. To these volumes, of which there were three, he gave the title, *Philosophical and Mineralogical Works*. The second and third embraced a complete system of metallurgy chiefly concerned with the chemical operations relating to iron and copper. But it is the first volume, known as the *Principia*, admirably translated by Rev. A. Clissold, which throws most light on the philosophy of Swedenborg, whose Introduction is scarcely rivalled in philosophical literature. He begins by telling us that there are three stages in philosophical inquiry, three degrees of progress in the pursuit of wisdom, that wisdom which the lower animals cannot possess. You must have experience in the first place, by which he means the knowledge we acquire by the senses. What has experience done for us? For answer he gives a list of things that men by means of the senses have been able to achieve; but experience is not sufficient. There is another law you must understand before you advance in the pursuit of wisdom, the law which enables us to bring the things observed by the senses under the law of number, to reduce quantity to number, and this, which he explains in an admirably lucid manner, he calls geometry. But, he adds, you may have all that experience and geometry will tell you without reaching true wisdom. You must have reasoning. He defines enlightened reasoning, and tells us to what higher ranges of thought man may soar by its aid. But a man may know all that the world can tell him through his experience, through his intellect, and through his reason, and yet if he does not see that the duty of man is to learn to venerate his Creator he will not be a true philosopher. In masterly language he shows what the end and aim of the philosopher

should be, and how man is nothing if he does not recognize and obey the law which commands him to love his neighbour; and that his love of God should be displayed in his desire to benefit his fellow creatures. In other respects the Introduction to the *Principia* is a wonderful monument of reverence and intellectual power. It would be interesting to deal with the *Principia*, which greatly extended Swedenborg's fame; for the work was an attempt to explain the occult mysteries of creation. He grappled with the mystery of the making of the visible universe out of the invisible. He anticipated Kant in setting forth the nebular theory; describing the tremendous emanations from the sun, enormous masses of vapour, which in course of time became more and more condensed, revolving round the sun as mighty rings and globes, until the existing planetary orbits were established. The nature of the elements, their different movements and figures, and the law of magnetism are successfully described. It is not surprising that Emerson said, "You want a colony of men to understand the *Principia*," which, moreover, was recognized in Swedenborg's own time as one of the greatest scientific works ever published. It was of the *Principia* that the Marquis de Thomé said, "In this great work there are more additions to our knowledge of Physics, Mathematics, Astronomy, Mechanics, Chemistry and Mineralogy than would have sufficed to make the reputation of more than a few men."

This was, of course, so far as science and philosophy were concerned, the greatest thing he had done. But we read that when he was in Paris he frequently dwelt upon the fact that the knowledge of the soul ought to be more precise. We find in the list of his works frequent papers on Anatomy and Physiology and especially on the brain, and after three or four years of close and intense study and preparation he decided to publish his monumental work on those subjects. Between 1738 and 1741 he published the various portions of the work he called *The Economy of the Animal Kingdom*, with which was closely related his magnificent *Introduction to Rational Psychology*.

His studies preparatory to these works were undertaken in the hope that by an intimate knowledge of the vesture of the soul and its home in this world, the author might discover the nature of the soul itself; but the results of his earlier inquiries did not satisfy him, and he pursued the subject still more closely. The spirit of reverence and humility in which he wrote is displayed in these words, "I do not under-

take this work for the sake of honour or emolument, both of which I shun rather than seek, because they disquiet the mind, and because I am content with my lot, but for the sake of truth which alone is immortal." It was in 1743 and 1744 that Swedenborg published the successive volumes of his *Animal Kingdom* — unquestionably the greatest work he produced before his Illumination. He had gathered and commented on the discoveries and opinions of all the great anatomists, and there never had been such a collection of anatomical knowledge. The anatomists and physiologists of to-day are amazed at the extent of Swedenborg's knowledge. In the *Animal Kingdom* we find the opinions of the greatest and most experienced writers; and it constitutes a library of the knowledge of anatomy in those days. But his own discoveries are still more wonderful; he had written several works on the brain that had been more or less known, and in our time through the splendid efforts of Rudolf Tafel, nearly the whole of the work on the brain has been translated. Modern writers all recognize that Swedenborg in this important branch of anatomy was far in advance of his time. In the Prologue to this famous treatise, there is an admirable account of the conditions under which studies should be pursued, an explanation of the difference between the analytic and the synthetic methods, and a warning of the dangers students should guard themselves against in their investigations. Speaking for himself, Swedenborg said that when he was following some special inquiry and had discovered something new, he was sometimes disposed to dwell too much on it, and to wander from the prescribed path, and against this he guarded himself. It is impossible to give even a faint outline of the great Prologue to the *Animal Kingdom*, but I may perhaps read one or two passages. After saying how he endeavoured to guide himself in his studies he added, "Above all things it behoves the mind to be pure, and to respect universal ends, as the happiness of the human race, and thereby the glory of God our Maker. Truth is then infused into our minds from Heaven." Again he says, "Whoso believes Revelation implicitly without consulting the intellect, is the happiest of mortals, the nearest to Heaven. . . . But these pages of mine are written with a view to those only who never believe anything but what they can receive with the intellect, and who consequently boldly invalidate, and are fain to deny the existence of all supereminent things sublimer than themselves, as the soul itself and what follows therefrom, its life, immortality, the

life after death." Though I fear I have already trespassed on your patience, let me quote Dr. Wilkinson, who translated into English this great work in which Swedenborg shows such wonderful and precise knowledge of the human system and its laws from the skin to the brain. He says, "There is in the *Animal Kingdom* the clearness of the faultless logician; the utmost severity of the inductive reasoner; the order of the philosophical architect; the beauty, freedom and universal cordiality of the mighty poet; the strength of a giant, the playfulness of a child. Never was the path of science so aspiring or strewn with such lovely and legitimate flowers as in these astonishing volumes." But Swedenborg had to admit he did not find the soul. He saw at last that the soul was beyond the ken of physical inquiry and merely human investigation. But this work was given to the world on the eve of his Illumination in 1744–1745. From that time the spiritual world was opened to his vision, and while living in this world he learnt that he was also an inhabitant of another world, and furthermore that this universe is the garment of the spiritual universe. His spiritual eyes were opened and from that time his work of investigation and scientific inquiry ceased. He was privileged to see intellectually, and he told the world of his experience of the spiritual world—the things seen and heard there.

His work as an investigator and scientific inquirer had come to an end, but it had not been undertaken in vain. In the higher mission that was before him, his knowledge of the works of God in nature enabled him to understand more clearly the everlasting laws of nature's God. From the things seen and heard in the other world, he told of a new outpouring of the Divine—a second coming of the Lord, not in person but in Spirit—and as the servant of the Lord Jesus Christ he made known to the world the mysteries of the Kingdom of Heaven. I have promised to speak of this solemn and immeasurably important period of Swedenborg's career on another morning, and I am almost afraid of dwelling on the intermediate time which was an awful period of trial. We can read of the temptations he passed through, and of his terrible struggles. Not in Bunyan's account of the fight between Apollyon and Christian, not in the confessions of any of the early Fathers do we find anything so awfully tragical as the conflicts which Swedenborg passed through in the period intermediate between his career as a man of science and philosopher, and the bright morning when he was blessed with the peace that passeth all understanding, and he became

VIEW OF THE PLATFORM, KING'S HALL, HOLBORN, A

G MEETING, TUESDAY MORNING, JULY 5TH, 1910 [p. 15

HIS EXCELLENCY COUNT WRANGEL,
Honorary President of the International Swedenborg Congress

[p. 15

the enlightened seer and the illuminated leader. From that time his life was tranquil. The records of those dreams and temptations are so awful and solemn that one almost shrinks from the reading of them. He never published them ; but though we read them with something like fearful awe, it is delightful to dwell on the triumph that resulted, of the joy that came in the morning.

I remember reading many years ago a translation of one of Swedenborg's poems, that in which he dwelt with pardonable pride on the achievements of the great men of his race, of what they had done and how worthy they were to be remembered in the annals of his native country and of Europe. One phrase remains with me and I have been thinking of it during the last few days—"Let Europe boast of Sweden, north and south and east and west victorious." And the annals of Sweden tell us of more than a few of her sons who have won the homage of posterity; kings and statesmen, men illustrious in more than one branch of science, whose names will never be forgotten. But it is surely not too much to say that no son of Sweden is more certain to retain the wreath of eternal fame than Emanuel Swedenborg, the servant of the Lord Jesus Christ.

The PRESIDENT: I have now the honour of asking our Honorary President, His Excellency Count Wrangel, to address the Congress.

COUNT WRANGEL: Delegated to represent the Swedish House of Nobles at the Swedenborg Congress, it is a great honour to me to be the first to convey to the Congress a greeting from Swedenborg's country and from the Estate to which he belonged. The Swedish nobility feel flattered to have been invited by the Swedenborg Society of London to send a delegate to this Congress. They are proud that one of their former members will receive on this occasion the public acknowledgment to which his gigantic scientific genius fully entitles him. The great majority of his contemporaries only saw in Emanuel Swedenborg a mystic whose genius the men of those days could not or did not dare to grasp. Our times have had the privilege of doing justice to Swedenborg's memory and to his great scientific merits ; and as a representative not only of the House that has delegated me, but also of Swedenborg's own country, it is my pleasant duty to convey our grateful thanks to the Swedenborg Society for all they have done to honour his memory, and for having called together this Congress which will, so to say, lay the foundation stone of the monument that will in our

day be erected to the memory of this eminent thinker, philosopher and researcher, thus giving him his right place in the Pantheon of science. The Swedish House of Nobles ask me to convey to the International Swedenborg Congress their hearty and sincere greetings.

The PRESIDENT: Our next duty is to receive our distinguished Swedish visitors, countrymen of Swedenborg, who have honoured us by their presence at this Congress. Dr. Andersson, who represents the University of Upsala and the Royal Scientific Society of Upsala, has been especially energetic in collecting editions of Swedenborg for the University Library and has been very helpful to foreign investigators of the work of Swedenborg. I will call upon him first.

DR. ANDERSSON read the following Addresses in Latin from the Upsala University and the Upsala Royal Scientific Society—

SOCIETATI SWEDENBORGIANAE LONDINENSI,
S.P.D.

VNIVERSITAS REGIA VPSALIENSIS.

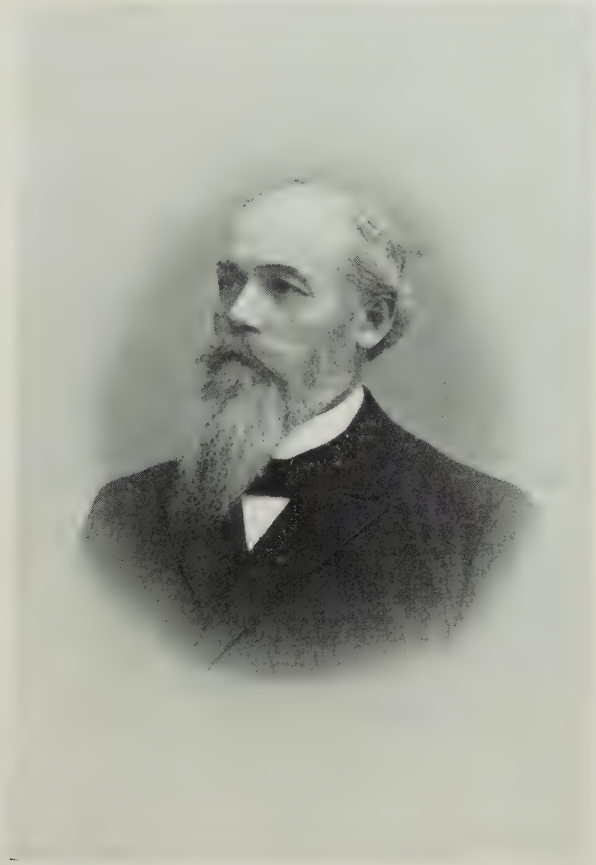
QVI DIE SAECVLARI SOCIETATIS VESTRAE IN LUCEM REDVX SOLITO CLARIVS SECTATORVM VENERANTIVM ANIMIS OBSERVATVR,

EMANVEL SWEDENBORG,

EVM GENVISSE GAVDET SVECIA, EDVCASSE GLORIATVR ALMA MATER VPSALIENSIS. VESTRA TAMEN OPERA AC BENEFICIO, VIRI CLARISSIMI, FACTVM EST, VT SCRIPTIS, QVAE ANTEA OBLIVIONE AC TENEBRIS OBSCVRATA IACEBANT, EDITIS IAM ET DIVVLGATIS NOMEN ILLIVS INGENIIQVE GLORIA NON MODO IN VTRAQVE NOSTRVM PATRIA, VERVM ETIAM PER TOTVM ORBEM TERRARVM IN AETERNAM POSTERITATIS MEMORIAM PROPAGATA SINT SAGACITERQVE INVENTA IN COMMVNEM HOMINVM VTILITATEM CONVERSA. QVAM OB REM VNIVERSITAS REGIA VPSALIENSIS, ALVMNI MERITO LAVDIBUS EXSVLTANS, MAXIMAS VOBIS GRATIAS AGIT SVMMIQVE VIRI MEMORIAM CELEBRANTIBVS ARDENTE STVDIO FAVET GRATVLATVRQVE. VALETE.

DABAMVS VPSALIAE NON MAI MDCCCCX.

HENRIK SCHÜCK,
Vniversitatis Regiae Rector.



DR. AKSEL ANDERSSON,
Librarian of Upsala University, Sweden

[p. 16

SOCIETATI SWEDENBORGIANAE LONDINENSI,
S.P.D.

REGIA SOCIETAS SCIENTIARUM UPSALIENSIS.

Litterae, quibus vos sacra saecularia Societatis Vestrae proximo mense celebraturos ac simul virorum doctorum ex omnibus gentibus accitorum conventum ad studia Swedenborgiana recolenda et promovenda pertinentem acturos esse indicastis nosque, ut ea sollemnia légato misso Vobiscum obiremus, perhumaniter invitastis, non mediocri nos gaudio affecerunt. Nam IMMANUELIS SWEDENBORGII memoria ut Suecis omnibus cara grataque est, ita propria quadam nos necessitudine ac pietate attingit. Summus enim ille Vir prope a primordiis incunabulisque societatis nostrae quaestiones inventaque, quibus tum iuvenis admodum inclarescere coepit, tam assidue cum ea communicabat, ut "Daedalus" ille "Hyperboreus" per aliquot annos ab ipso editus quasi actorum quorundam Upsaliensium locum obtineret. Postea autem semper cum collegio nostro, in quod mox cooptatus est, coniunctissimus fuit, ut iure Eum ac merito inter praecipua, quibus gloriari possumus, decora feramus.

Quare sic Vobis, Viri Amplissimi Ornatissimique, persuasum sit velimus, Vestrae nos societati quam maxime favere operamque et studium, quod tam liberaliter et strenue ad immortalem Illius Viri memoriam illustrandam conferre perseveratis, vehementer probare magnaque prosequi admiratione. Ex animi igitur sententia optantes, ut INCLITA SOCIETAS SWEDENBORGIANA per novum, quod iam auspicatura est, saeculum florere ac vigere pergat, sollemnibus Vestris omnia bona, fausta, felicia precamur. Valete!

Dabamus Upsaliae m. Junio a. MDCCCCX.

Regiae Societatis Scientiarum Upsaliensis nomine,

HARALD HJÄRNE,
Praeses.
N. C. DUNÉR,
A Secretis.

DR. ANDERSSON concluded by saying: I have the honour to present on behalf of Swedenborg's *Alma Mater* a collection of Swedenborg's poems, entitled *Opera Poctica*, bearing the following printed dedication :—

"SOCIETATI SWEDENBORGIANAE,
LONDINENSI,
FESTUM SAECULARE CELEBRANTI,
UNIVERSITAS UPSALIENSIS."

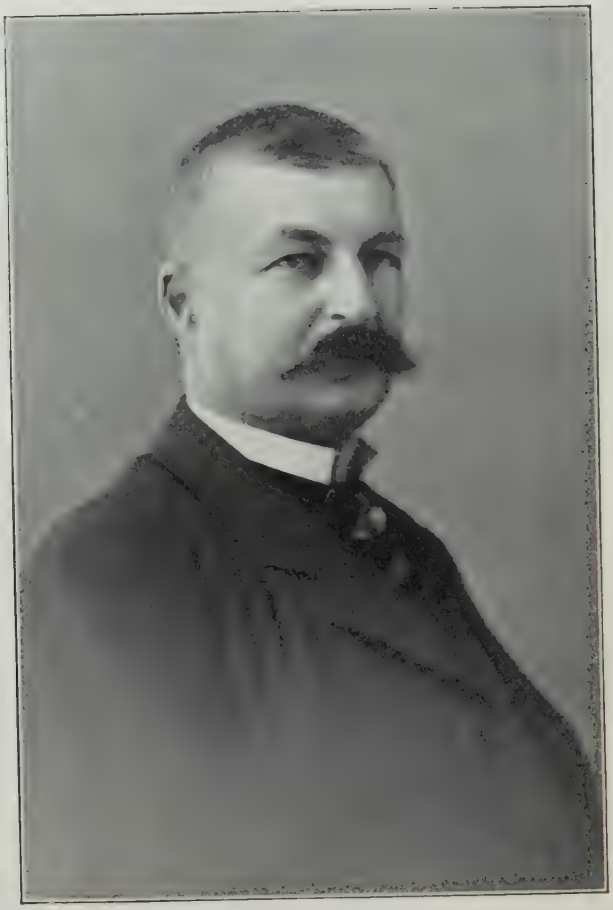
The PRESIDENT: In the name of the Society I gratefully accept these most interesting documents.

PROFESSOR LÖNNBERG, representative of the Royal Swedish Academy of Sciences: In taking a general view of the external and internal expansion of Sweden after the Thirty Years' War, the student of the history of the North will be especially struck by a great development in an outward direction which made of the Baltic a Swedish lake, and by a parallel inward rise of culture and learning. Upsala University, founded in 1477, received from Gustavus Adolphus most valuable donations which greatly increased the influence of that ancient seat of Swedish learning, and after the momentous Cartesian Controversy which raged from 1663 to 1689, and in which the Faculties of Medicine and Philosophy were supported by the Faculty of Law, the dogmatism of the Swedish State Church was to a great extent shaken.

The great mover in the controversy, and the leading figure in this early epoch of Swedish science, Olof Rudbeck, sen., undoubtedly exercised a powerful influence not only upon Swedish science and learning in general, but especially upon those professors in the Faculties of Medicine and Philosophy, who, under the leadership of Swedenborg's brother-in-law, Eric Benzelius, jun., organized in 1710 the *Collegium Curiosorum*, the earliest of Swedish scientific societies, which later on developed into the Royal Society of Sciences of Upsala.

Limits of time will prevent my referring in detail to the early development of the Society, which coincides with the years when Swedenborg was one of its most active members, from about 1710 to 1729. Suffice it to say, that the early members, Eric Benzelius, jun., Lars Roberg, Harald Wallerius and his sons Göran and Johan, and Petrus Elfvius, met from time to time to discuss scientific and literary subjects. Many of Swedenborg's early letters and scientific papers were read at the meetings of the Society, and he was also active as the editor of the *Dædalus Hyperboreus*, whose six numbers, issued from 1716 to 1718 constitute the first Swedish periodical devoted to the natural sciences.

This publication, the first issue of which was dedicated to Charles XII, drew the attention of the King to his gifted young subject, the student Emanuel Swedberg. The King was deeply interested in scientific matters in general, and well versed in mathematics, so that if fate had not made him a great warrior he would have been a prominent scientist. He treated Swedenborg with great kindness and used to discuss with him, as well as with "the Swedish Archimedes," Polhem,



PROF. EINAR LÖNNBERG, [p.19
Superintendent of State Museum for Zoology, Stockholm

different kinds of geometrical and algebraic questions, etc., and showed great power in solving the most difficult problems. After the King had tested Swedenborg's qualities and satisfied himself in this respect, he offered him a choice between three different offices, among them a professorship at the Royal University at Upsala and an assessorship in the Berg's Collegium in the capital. Swedenborg chose the latter and Stockholm thus became his home.

An attempt to remove the head-quarters of the Upsala Scientific Society to Stockholm having failed, the opinion began to gain ground that the capital of Sweden should be the seat of a learned body, and accordingly, in 1739, von Höpken, Triewald, Linné and others founded the Academy of Sciences. Swedenborg was absent at the time, engaged in writing and printing his *Œconomia Regni Animalis*, a work which has in our days been so highly praised; but in 1740 Linné himself proposed Swedenborg for membership, and having returned he took his seat in January 1741, and I am informed that there are not a few references to him in the Minutes from 1740 to 1772.

But it must be admitted that neither in England, on the Continent, nor in Sweden, were the scientific works of Swedenborg really understood and their great significance grasped during Swedenborg's life-time. Sometimes this appeared hard to him; "Speculations and inventions such as mine give neither encouragement nor bread . . ." he wrote once to his brother-in-law. He was too far ahead of those times, and it has remained for our own days to do justice to his memory as one of the greatest of Swedish investigators. Nevertheless there are indications that Swedenborg's works were circulated and noticed during his life-time to a greater extent than is generally supposed. This is proved by the fact that his scientific works were dreaded and interdicted in Rome in 1739. It is also evident that many discoveries which have been attributed to authors such as Buffon, La Grange, Laplace and several others, in reality had been anticipated by Swedenborg. It seems, then, very strange that so many of Swedenborg's works have for such a long time been committed to at least partial oblivion. The explanation of this may be correctly expressed by a French author, M. de Thomé (1785), who said, "Some people fear that the enlightening works of this, the greatest physicist and theosopher that ever was born, should give the death-stroke to their own systems. Others, who have tacitly borrowed from him, tremble for the discovery if the source should become better

known. The third category of opponents are such people as enjoy their reputation in consequence of an exaggerated estimation of their learning, but who inwardly admit its insufficiency and therefore fear the appearance of this polar star which would make themselves shine less brightly and reduce them to their real value." It remained, thus, for investigators in England, Germany and Sweden, half a century after Swedenborg died in this city in 1772, to begin the work of removing the *débris* of neglect from the mighty proportions of Swedenborg's genius, exhibiting him as the Aristotle of the North. I need only mention the names of James John Garth Wilkinson, Augustus Clissold, Edward Strutt, active members of the Swedenborg Association of this city, and of Immanuel Tafel of Tübingen, to recall to the minds of many members of this Congress the early movement to do justice to Swedenborg's scientific works.

In Sweden also the movement made some headway. The translation of Swedenborg's *Prodromus Principiorum Rerum Naturalium*, which appeared in an English dress in London, 1842, with the title, *Principles of Chemistry*, was dedicated by permission to our great chemist, J. J. Berzelius. I may here quote his expressions concerning Swedenborg's scientific works. As long ago as 1842, at the third meeting of the Scandinavian Scientists, the great Berzelius expressed himself as follows concerning Swedenborg's merits as a geologist in a paper entitled: "A few Words concerning the Elevation of the Scandinavian Peninsula above the Surface of the Surrounding Seas, and concerning the striation of its mountains":—

"Emanuel Swedenborg, famous in so many respects, was the first to call attention in print to the elevation of the Scandinavian peninsula. He published in 1719 a little work, 'On the Height of Water and Strong Tides in the Primeval World. Proofs from Sweden.'[1] In a dedication to the Queen[2] he congratulated her on ruling over a land which was constantly enlarged at the expense of the sea. Among the proofs that a sea in great commotion at one time swept over Sweden, he reckons the ridges of the mountains, whose general direction from north to south he had correctly

[1] An English translation of this work is printed in Part I of *Scientific and Philosophical Treatises by Emanuel Swedenborg*, Bryn Athyn, Pa., 1908. The exceedingly rare original edition has been reprinted in Vol. I, *Geologica*, of Swedenborg's works now being published at Stockholm by the Royal Swedish Academy of Sciences.

[2] Berzelius writes "King," but the work was dedicated to Queen Ulrica Eleonora.

observed; and likewise the fact that all the stones found there are rolled, worn off, and rounded, even those which weigh from five to ten *skeppund*. He was acquainted with the layers of shells at Kapellbacken, near Uddevalla, and at several other places on the western coast of Sweden. He speaks of the skeleton of a whale which, during his stay at Upsala, was discovered in Vestrogothia, ten Swedish miles inland, and which was placed in charge of Prof. Roberg, who was at that time the Professor of Anatomy, for preservation in the anatomical museum of Upsala University. He speaks of the remains of ships found far inland during excavations, and he describes several giant pots which he examined, and found to have been hollowed out by loose stones which had been swung around in the hole by heavily surging water."

After having mentioned what Swedenborg's successors wrote concerning the same problem, Berzelius continues:—

"None of these observers, except Swedenborg, had really concerned themselves with geological investigations; the subject was treated in an historico-geographical manner, and no other reason for the elevation of the peninsula was supposed to exist than that the water on the earth must gradually decrease in quantity, which gave to the whole question the name, 'The Doctrine of the Decrease of Water.'"

In a letter to Dr. J. J. Garth Wilkinson, Berzelius says further:—

"I am surprised at the great knowledge displayed by Swedenborg on a subject that a professed metallurgist would not have been supposed to have made an object of study, *and in which, as in all he undertook, he was in advance of his age.*" And in an earlier letter he says: "I have gone through some parts of the *Animal Kingdom* which have interested me especially; and I have been surprised to find how the mind of Swedenborg *has anticipated* the present state of knowledge, writing his work at the time he did. I hope the anatomists and physiologists of our day will profit by this work, both for the sake of extending their ideas, and of rendering justice to the genius of Swedenborg."

Another great Swedish scientist, the anatomist and anthropologist, Anders Retzius, in an address on "The Origin and Development of Anatomy in the Scandinavian North," delivered on leaving the Presidency of the Royal Swedish Academy of Sciences on 9th of April, 1845, expressed himself as follows concerning Swedenborg's *Animal Kingdom* and *Economy of the Animal Kingdom*:—

"In this period Emanuel Swedenborg also appeared as an

author on anatomical and physiological subjects. He had previously distinguished himself as a mathematician, physicist, chemist, mineralogist and geologist. Besides possessing an immense learning in all the sciences, he desired by means of it to find the path to knowledge concerning the human soul and to penetrate still further into the highest regions of human thought. With this end in view he worked out his *Regnum Animale* and *Œconomia Regni Animalis*, London, 1740, which latter work has now been republished at London, translated into English by Wilkinson. Haller, indeed, makes favourable mention of the *Œconomia Regni Animalis* in his *Bibliotheca Anatomica*, but beyond this Swedenborg's physiological writings have remained unread and not understood until the most recent times. His *Regnum Animale* has now again appeared like a marvel. One finds there ideas belonging to the most recent times, a scope, induction and tendency, which can only be compared with those of Aristotle. It may be supposed that one or two decades will still be required in order to estimate rightly the merits of this work. Having finished his physiological works, Swedenborg passed over to his investigations concerning the soul, and from these to those concerning the spiritual world and religion, which have gained so many adherents in various parts of the world."

In later times the Professors Adolf Eric Nordenskiöld and Magnus Nyrén have also expressed themselves concerning the significance of Swedenborg's contributions to geology and cosmological physics; and as their statements kept alive the interest in Swedenborg's works which finally led to the appointment of the Swedenborg Committee of the Royal Swedish Academy of Sciences, they may be quoted :—

A. E. Nordenskiöld writes of Swedenborg, in 1877, in the periodical *Framtiden*, that he is "known in the history of the natural sciences by various geological contributions excellent for his time, by a remarkable work on the atomic theory, by some investigations in crystallography, by the largest and most comprehensive handbook on metallurgy in its day, etc." In an address delivered at the public annual meeting of the Royal Swedish Academy of Sciences, on 26th of March, 1888, Nordenskiöld expressed himself as follows: "The merit of having first seriously broached the question of the fluctuation of the level of the ocean, and of having made the same the subject of an earnest scientific investigation therefore belongs to Emanuel Swedenborg, since he published at Stockholm, in 1719, a work, entitled: *Om Wattnens Högd och Förra Werldens starcka Ebb och Flod, bewis utur Swerje.*

From the constitution of the mountains in Vestrogothia, from the petrifications in the horizontal beds of lime and marl, from banks of shells situated far above the present level of the ocean, from the wreckage of ships and the skeleton of a whale found far from the sea, from the forms of the sand banks and the rounded form of the stones found in them, from the wandering blocks or, as Swedenborg expresses it, from 'the stones which are spread around the whole world,' from the giant pots, from the coast-lines of Halleberg and Hunneberg, from fishes in inland seas situated far above the level of the ocean, and finally from the annual fall of the Baltic, confirmed by many proofs, Swedenborg draws the conclusion that the level of the ocean in Sweden in former times stood some hundred ells above its present altitude. The cause of the changes pointed out he attributes partly to a change in the velocity of the earth's rotation and in the time of the moon's revolution around the earth, by which the water is driven from the poles toward the equator, partly to the condition of the water in the Baltic, which is higher than in the North Sea, the height of which is gradually diminishing.

"Swedenborg's article, which contained the key-note of so much in the doctrine of the earth's history which is being discussed even to-day, was at first unnoticed and not understood by the learned world. But it became the first guiding hint for the investigations made by Anders Celsius, begun in the year 1724 during travels along our coasts, regarding the altitude of the water in the Baltic, the results of which he gathered together in an article published in 1743, in the fourth part of the proceedings of the Academy of Sciences, entitled: *Anmärkningar om vattens förminskande så i Östersjön som Vesterhafvet.*"

In a German periodical, *Vierteljahrschrift der Astronomischen Gesellschaft*, Vol. XIV, 1879, Professor Nyrén expresses himself as follows concerning Swedenborg's cosmology: —

"It cannot be denied that the essential part of the nebular hypothesis, namely, that the whole solar system has been formed out of a single chaotic mass, which first rolled itself together into a colossal ball and subsequently by rotation separated a ring from itself, which then during the continued rotation broke up into several parts, and finally contracted into the planetary masses, was first expressed by Swedenborg. The work of Kant here in question, the *Allgemeine Naturgeschichte und Theorie des Himmels*, was published in 1755, that is, twenty-one years later; Laplace did not publish his

hypothesis until sixty-two years later. "It should further be observed that Swedenborg has in all probability given his hypothesis the more correct form, namely, that, as Laplace also later on supposed, the planets were formed out of broken-up rings (on the basis of the vortical theory Swedenborg found but one ring necessary), not, as Kant supposed, immediately out of conglomerations formed from the original mass of vapour."

Since Kant in his work refers to Buffon, who had Swedenborg's work in his library as early as 1736, and printed a theory some years later, according to which also the planetary masses originate from the sun, it is not impossible that Kant was indirectly influenced by Swedenborg through Buffon. That Kant later on had rather close relations with Swedenborg is well known.

Turning now to another side of our subject I may refer briefly to the fate of Swedenborg's MSS. They were borrowed from the Academy Library and taken to England by some Swedes before the close of the eighteenth century, and a number were seen through the press by Robert Hindmarsh and published by those early New Church printing societies which were the predecessors of the Swedenborg Society. After several decades the MSS. were returned to the Library of the Academy of Sciences at Stockholm after negotiations conducted by officials of the Swedenborg Society and Secretary Berzelius of the Academy. No doubt the negotiations just referred to contributed to arouse interest in the scientific MSS. of Swedenborg, as did the statements of Berzelius, Anders Retzius, Magnus Nyrén, A. E. Nordenskiöld, and in later times of A. G. Nathorst and Gustaf Enestrom.

After the appearance of Vol. I of *The Brain*, edited by Dr. Rudolf L. Tafel, in 1882, Professor Christian Lovén gave an account of it before a meeting of the Academy of Sciences at Stockholm. Two decades later the Swedish Foreign Office received from the Swedish legation at Vienna a memorial inspired by Dr. Max Neuburger, now Professor of the History of Medicine at the University of Vienna, in which he expressed his regret that an extensive work on the brain by Swedenborg had not yet been published. A copy of the memorial was sent by the Foreign Office to Professor Retzius, who attempted an examination of Swedenborg's MSS., but was obliged to give up, for the time being, any special study of them, as they are not always easily read or understood. In August 1902, hearing of the visit to Stockholm of Mr. Alfred H. Stroh, he communicated with him, and in December 1902, after a

PROF. HJALMAR SJÖGREN, [*p.* 25
Superintendent of the State Museum for Mineralogy, Stockholm

preliminary examination of the MSS., moved in the Academy of Sciences the appointment of the Swedenborg Committee. As a member of the Committee is present at this Congress, I believe you will hear from him with regard to their labours.

In conclusion, it gives me great pleasure to present the Swedenborg Society with those volumes of the Stockholm edition which have thus far appeared, and also to transmit a festival publication, an abridged *Chronological List of Swedenborg's Works*, by Mr. Alfred H. Stroh, the editor of the new edition of Swedenborg's scientific works, and Miss Greta Ekelöf, first Assistant Librarian in the Academy of Sciences.

PROFESSOR HJ. SJÖGREN: In addressing this Congress as the representative of the Swedish Board of Trade (Kommerskollegium), and of the Association of Ironmasters (Jernkontoret), I desire on behalf of the Board of Trade and of the said Association to thank the Swedenborg Society for the invitation extended to these bodies to be represented at this Congress. Swedenborg's name is still remembered at the Board in which that of the College of Mines has been incorporated, as one of its most zealous members, and I shall, in the first place, briefly refer to his connection with the Royal College of Mines, a body which no longer enjoys independent existence, having been merged in the Kommerskollegium in 1857. In the second place, I desire briefly to notice Swedenborg's works and memorials on metallurgical and mineralogical subjects, and to indicate what value should be placed upon them when they are examined in the light of modern investigations and after the experience of a century and a half.

Many persons here are no doubt aware of the fact that on both sides of his father's house Swedenborg was connected with the mining industry of Sweden; for his paternal grandfather, Daniel Isaaksson, of "Sweden" near Falun, was a successful copper-miner of that old centre of the Swedish copper-trade; while Albrecht Behm, the father of Swedenborg's mother, was connected with the Board of Mines. Whether these family connections in any degree influenced Swedenborg's choice of a post, when King Charles XII in 1716 offered him the choice of several places, I am unable to say. We possess, apparently, no further direct evidence concerning the causes which led to Swedenborg's appointment as "assessor extraordinary" in the Royal College of Mines than the facts supplied by his studies at the University of Upsala and while on a visit to England and the Continent, from which he returned in 1715 after a five

years' visit abroad, during which he devoted his energy to an enthusiastic study of mechanics, mathematics, astronomy and the natural sciences, as is abundantly shown by his earliest letters, printed in Vol. I of the edition of his scientific works recently published by the Royal Swedish Academy of Sciences. Swedenborg's choice of a post was no doubt largely determined by his strong predilection for scientific studies; but the more immediate reason of his meeting Charles XII, and entering upon a scientific career is to be sought in his great admiration for Christopher Polhem, who in 1716 introduced him to the King at Lund, and with whom Swedenborg was closely associated for a number of years. Even the title-page of the *Dædalus Hyperboreus* edited by Swedenborg, 1716–1718, the first periodical in Sweden devoted to the natural sciences, bears witness to the great admiration of Swedenborg for the Swedish Archimedes. And in the *Dædalus* we also find what appears to be Swedenborg's earliest contribution to mechanics, namely, a drawing of a hoisting machine for ore. In passing, it may be observed that such machines, as also pumps, etc., were invented by Polhem as well, and that Polhem's models are still preserved at Falun in the Mining Museum.

The numerous papers, books and pamphlets which came from Swedenborg's pen during the period 1716–1722 indicate that the course of his studies carried him more and more away from his early poetical and literary work, which appears to have taken up a good deal of his energy before 1716, and led him into a series of mechanical, astronomical, geological, metallurgical and chemical investigations which exhibit great originality and assiduity. These earliest scientific works by Swedenborg are appearing in the first four volumes of the Stockholm edition of his works, and Swedenborg's discoveries as there recorded have been much praised by several of our greatest scientists.

After the death of King Charles XII in 1718, Swedenborg, who had been closely associated with the King and with Christopher Polhem in various mechanical and engineering projects, began to devote his energies to learning his duties in the College of Mines, and in 1719 we find him handing in to the College a little work on "Swedish Furnaces and their Draughts," which was printed for the first time in 1904 in *Noraskag's Arkiv.* Further evidence of Swedenborg's progress in metallurgy and mineralogy is found in his *Miscellaneous Observations* of 1722 and in a number of shorter papers of that period.

It was during the latter part of the journey which Swedenborg took to the Continent in order to print his *Prodromus Principiorum, Miscellanea Observata* and smaller works, that he visited many of the mines in Saxony and other parts of Germany, laying the basis for that comprehensive metallurgical work "On the Proper Treatment of Metals" (*De Genuina Metallorum Tractatione*), which was planned for publication in nineteen parts, and the prospectus of which appeared in 1722.[1]

Some parts of this comprehensive work are still preserved in MS. in the library of the Royal Swedish Academy of Sciences at Stockholm, but the plan was never completely carried out. Much of the material was, however, employed in the production of the *Opera Philosophica et Mineralia*, which appeared in 1734 in three large folio volumes, published at Dresden and Leipzig. So highly was this work valued that portions of the volume on Iron appeared in French in Paris, and in German at Strassburg.[2] Soon after the publication of this fundamental work in the history of metallurgy, especially of Swedish metallurgy, its author was elected a member of the Imperial Academy of Sciences of St. Petersburg.

In 1747 the Board of Mines advised that Swedenborg should be appointed one of its Councillors, a position of great responsibility. His work had, however, been turned in a new direction, and at his own request he was not appointed Councillor, but was retired on half of his salary for the remainder of his life.

An adequate discussion of Swedenborg's metallurgical works, and of his numerous memorials on mining matters, must be deferred for another occasion; and as the interest in these works is growing in Sweden, it is to be hoped that they will some time appear not only in the Stockholm edition of Swedenborg's works, but also in a Swedish translation with full discussions of their scientific value and historical significance.

Although interested in metallurgy and mineralogy in a wide sense, Swedenborg, in his published works, confines

[1] Of the extremely rare Latin original of this prospectus, of which but two copies are known in Sweden, there appeared an English translation in Vol. I, pp. 555–557, of Dr. R. L. Tafel's *Documents concerning Swedenborg*, London, 1875–77.

[2] Dr. Benedicks has pointed out that the estimation of the specific weight of iron, as given by Swedenborg in his "Opera" of the year 1734, is correct to within a decimal point.

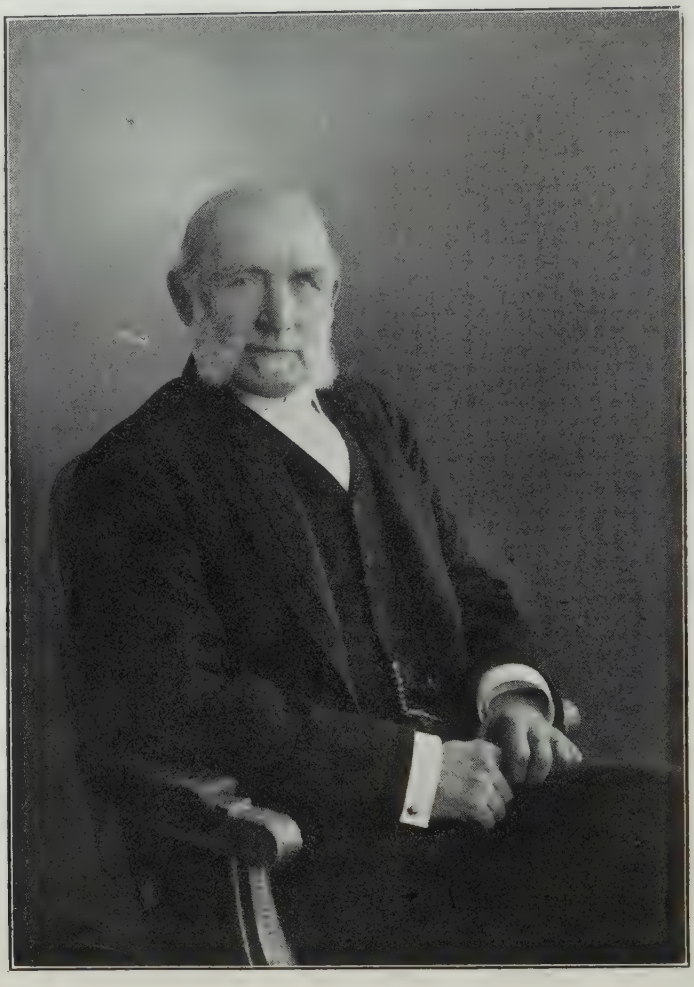
himself for the most part to the methods employed in the treatment of iron, copper and brass, concerning which he furnishes both historical and practical information of great interest and value. He was also a predecessor of those who in modern times oppose the exportation of Swedish iron ore, advocating the working up of the crude materials in Sweden itself, as appears from the following extract from a "Memorial in Favour of Establishing Rolling-Mills in Sweden":—

"It is of the greatest importance to promote mechanical works and manufactures, especially those for which the crude material is at hand; for by such works the common material is ennobled, and commands a better price, and the public derive benefit and advantage from it. It is well known throughout the world that no country has better opportunities for establishing manufactories of iron than Sweden; yet it is a source of regret to many that we desire and hope for the establishment of manufactories without doing anything to encourage and foster them. It is, therefore, my humble desire to propose a plan by which a way to establish and encourage such works is pointed out, so that they may not only be founded, but may also increase in power and importance."

Swedenborg then proceeds to give in detail reasons and methods which, if they had been followed during his day, would possibly have brought on much sooner than actually occurred the great industrial development which has characterized the rise of modern Swedish commerce. His liberal views concerning mining and manufactures; concerning coinage and the introduction of the decimal system, were, as the student of history now finds, far in advance of his day, and in many respects thoroughly sound. Dr. Sjöstrand's timely and illuminating article[1] on Swedenborg's contributions concerning money and its values shows that Swedenborg was a true pathfinder in that branch, as in so many others. In general, the verdict of history concerning Swedenborg's contributions to mineralogy and metallurgy will no doubt be, that in this field of natural and technical science Swedenborg's name and works throw great lustre upon Swedish history, and constitute a milestone in scientific progress, as is the case in other fields where his monumental labours have already received due recognition, and been embodied among the standard sources of knowledge.

In concluding this brief account of Swedenborg's membership in the Board of Mines, and of his contributions to

[1] "Emanuel Swedenborg's åsikter om mynt och myntvärde." In *Statsvetenskaplig Tidskrift*, Lund, 1908.



COMMODORE SUNDSTRÖM,
Late of the Swedish Royal Navy, Stockholm

[p. 29

mineralogy and metallurgy it gives me great pleasure to lay on the table of this Congress, for the library of the Swedenborg Society, whose centenary we are celebrating, a work recently published in Sweden, *The Iron Ore Resources of the World*, which would, no doubt, have greatly interested Swedenborg had he had the opportunity of examining it.

COMMODORE SUNDSTRÖM, President of the Publishing Corporation of the New Church in Stockholm: The New Church congregations in Stockholm and Gothenburg and the Publishing Society of the New Church in Sweden have appointed me to be their representative at the celebration of the one hundredth anniversary of the founding of the Swedenborg Society in London, and to congratulate the Society most heartily upon the results achieved. Looking back upon the last hundred years, every New Churchman all over the world must be filled with gratitude and admiration for the enthusiasm and the devotion with which the Swedenborg Society has worked during that time. I mentioned that I was the representative of the Publishing Society in Sweden and as such I may, perhaps, say a few words. It is true that our Society has not one hundred years to look back upon. It is about twenty years old, having been founded in 1891, and has become the centre for the sale of all the publications issued from time to time by different associations in Sweden. Of course there can be no comparison between the two Societies—the little one in Stockholm and the big one in London. They are, however, equally bent on being useful, and the little sister is doing her best to follow the example of her full-grown sister. To prove her good-will in that respect, I now have the honour to present to the Swedenborg Society a small publication which our Society has had the honour of dedicating to the Swedenborg Society. It contains some hitherto unknown MSS. of Swedenborg, discovered and edited by our able and energetic friend, Mr. Alfred Stroh. The funds necessary for the publication have been provided by the late Commodore Nordenskjöld, who was well known to many people here. I may conclude by quoting the last sentence of the preface to this volume: "In laying before the public Part I of *Swedenborgiana*, we are filled with the hope that it may be the first of a long series, to contain the numerous documents by and concerning Swedenborg which lie unprinted, and, in many cases, unreproduced in any form. Our prolonged study of such documents brings the conviction that if students of Swedenborg's mental development are ever to be able to follow with

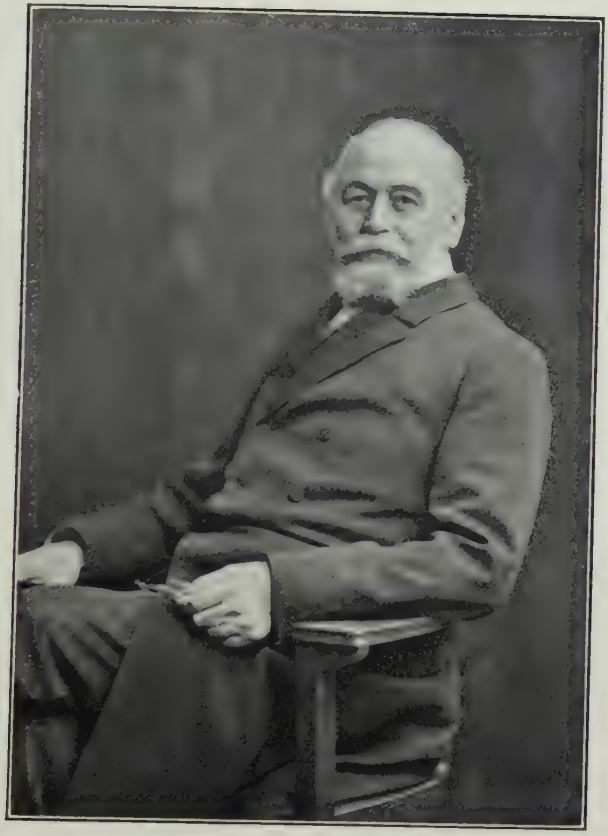
accuracy the story of his wonderful life and literary labours all of these documents must first see the light."

Professor Henschen, of the Caroline Institute, Stockholm: The great honour shown by the Swedenborg Society to the members of the Swedenborg Committee of the Royal Swedish Academy of Sciences, in inviting them to be members and Vice-Presidents of this International Swedenborg Congress, has filled us with feelings of thanks, and inspired me to be present at this meeting. On behalf of the members of the Swedenborg Committee, I desire to bring you greetings from a group of Swedenborg investigators at Stockholm, the scope of whose work is indeed not so wide as that of the Swedenborg Society of London, but whose aim it is to do justice at least to Swedenborg's scientific productions.

The bonds of connection which have in past times linked together the Stockholm Academy and the London Society have recently been strengthened by proceedings in Sweden and England, and will be further increased by this Congress, another sign of the international character of Swedenborg's influence.

We are proud in Sweden to enroll in our history such great scientific names as those of Rudbeck, Swedenborg, Linné, and Berzelius. These gifted investigators not only developed their special sciences by comprehensive researches and penetrating insight into scientific problems, but they also predicted great future discoveries, which have in our times been established in all their epoch-making significance. It is also a remarkable fact that London is the home of two Societies, founded to preserve and spread the works of two great Swedes; I refer to the Linnean Society and the Swedenborg Society. The latter body, I have been informed, although formally organized a century ago, is in reality older than the Linnean Society, as the oldest movement in London to print Swedenborg's works dates back to 1776.

In December 1902 the Swedenborg Committee of the Royal Academy of Sciences at Stockholm was appointed on the motion of Professor Gustaf Retzius. After the appointment of the Committee a preliminary investigation of Swedenborg's MSS. was undertaken, in order to determine what works should be printed. In April 1903 a beginning was made with the printing of some of Swedenborg's earliest works, treating of geological and physical science. The work has, however, been greatly extended since that year, so that the plan of the edition now includes practically all of Sweden-



PROF. S. E. HENSCHEN, [*p.* 30
Professor of Clinical Medicine, Caroline Institute, Stockholm

borg's original contributions to science, including in Vol. I his scientific correspondence.

Vols. I and II have appeared, and are furnished with a preface by Professor Gustaf Retzius, on the history of the Committee's labours up to 1907, and with Introductions by Professors A. G. Nathorst and Svante Arrhenius, members of the Committee. Professor Erik Müller and myself will contribute to the analysis of the anatomical material to be printed in the concluding volumes of the series.

I must not omit to mention the names of the late Professor Christian Lovén, and of Professors C. G. Santesson and Peter Klason of Stockholm, whose studies of Swedenborg's scientific works have done much to arouse interest in them. The publications of Professors Neuburger and Santesson have also done much to maintain interest in Sweden in the scientific works of Swedenborg.

At Upsala the Professors of the Medical Faculty (Edward Clason, August Hammar, J. V. Hultkrantz, and O. M. Ramström) have, since 1908, made important contributions to the study of Swedenborg's anatomical works, and the investigation of his remains, as will be seen from the remarks of Professor Ramström. And with regard to the remarkable public proceedings in England and Sweden in the spring of 1908, when Swedenborg's mortal remains were transported with impressive ceremonies from London to Upsala, I need only mention that the initiative in that movement having been taken by Professor Retzius and the Stockholm Committee, the authorities of Upsala University, of the Royal Scientific Society, and of the Swedish Church have done everything in their power to honour Swedenborg's memory. In 1908 the Swedish Parliament also provided for a sarcophagus in Upsala Cathedral, and this monument over Swedenborg's remains will probably be unveiled next November in connection with the bicentenary celebrations of the Royal Scientific Society of Upsala, in the early development of which Swedenborg took an active part. The progress of the work at Stockholm has been essentially promoted by the initiative and financial support of Professor Gustaf Retzius, President of the Committee, and by the editorial labours and investigations of Mr. Alfred H. Stroh, the representative of the Swedenborg Scientific Association of Philadelphia, who has dedicated his life to the investigation and publication of Swedenborgiana, and who has recently been appointed secretary of the Stockholm Committee.

As to the value of Swedenborg's investigations in geology,

Professor Nathorst says: "From the account given in the preceding pages the statement made in the beginning of this Introduction is justified, namely, that Swedenborg's contributions in the field of geology are of such a significance and sweep that they alone would have been sufficient to have secured him a respected scientific name. At the early age of thirty-five he had published a majority of the works, and he afterwards added to them, in the field of metallurgy, the two large volumes on copper and iron.

"One immediately notices in studying Swedenborg's geological writings that an investigating nature of the highest rank is in question, which on a solid foundation, and with sharp powers of observation, noticed everything, even what was apparently insignificant, in order to draw conclusions from it, and which, when possible, endeavoured to control the correctness of the same by experiment. The wealth of observations which he collected from various parts of Europe is astonishing, and he did this at a comparatively early age. Even if he did not free himself from the incorrect view that Noah's flood extended over the whole earth, he nevertheless saw that many phenomena which testified to a higher water-level in former times did not arise from the so-called universal flood, and this in itself involves a step forward in the direction of complete liberation from the dogma which had prevailed up to that time, and which had exercised such a restricting influence on the development of geology. The condition of chemistry at this time was a great disadvantage to him, for he could not make use of it to arrive at a final solution of various questions, even when he was on the right road. But the many-sidedness, to which his geological works bear witness, is truly remarkable; nearly all questions of great significance for the geology of that time are touched upon by him, and still these works are but the minor portion of his whole scientific activity, which in many respects was far ahead of the times. For he was also a mathematician, astronomer, cosmologist, physicist, mechanic, chemist, anatomist, and physiologist."

Professor Arrhenius sums up as follows the results of his investigations concerning Swedenborg's contributions to cosmology:—

"If we briefly summarize the ideas, which were first given expression to by Swedenborg, and afterwards, although usually in a much modified form—consciously or unconsciously—taken up by other authors in cosmology, we find them to be the following:—

PROF. A. G. NATHORST, [*p.* 32
Superintendent of State Museum for Fossil Plants, Stockholm

"The planets in our solar system originate from the solar matter—taken up by Buffon, Kant, Laplace, and others.

"The earth—and the other planets—have gradually removed themselves from the sun and received a gradually lengthened time of revolution—a view again expressed by G. H. Darwin.

"The earth's time of rotation, that is to say, the day's length, has been gradually increased—a view again expressed by G. H. Darwin.

"The suns are arranged around the Milky Way—taken up by Wright, Kant, and Lambert.

"There are still greater systems, in which the Milky Ways are arranged—taken up by Lambert."

Professor Peter Klason has prepared an Introduction for a future volume of the scientific works, in which is given an extended treatment of Swedenborg's *Principia*. According to this presentation it was clear to Swedenborg that the universe has been produced by evolution from the infinite. Swedenborg has applied Newton's theory of fluxions in a natural philosophical manner, and like Newton he considered that motion is the only principle of matter, and that therefore matter is "generated" by motion. The spiral motion is the original motion, and the whole world with all its qualities is in the natural point *in conatu*. With Professor Klason's kind permission the following extracts are communicated from his manuscript. "How did Swedenborg proceed in constructing his world with motion alone as his principle? He did exactly as Descartes did in the geometrical determination of his curves and surfaces, that is, he started from an origin which he called the *punctum naturale*. The natural point is thus the whole world *in conatu*. Metaphysically it is thus the most perfect indivisible entity; it is a *simplex*, which by its fluxion in Newton's sense, generates the whole sensible world. The motion of the natural point was infinitely great and yet not an actual motion in time, not a motion which could be conceived geometrically, but it was a *conatus ad motum*, an effort towards motion; it was what now would be called potential or bound energy. Swedenborg was undoubtedly the first person who so completely and clearly perceived the distinction between actual and potential energy that he gave them separate names, *conatus ad motum* and *conatus in motu*. 'Because conatus may be considered in a similar manner as motion, for that is present in the conatus which is in the motion, and nothing is in the motion that had not been previously in the conatus and one with it.'

The natural point was thus the same as *conatus ad motum*, or as he calls it, 'pure motion in the universal infinite.' In this natural point there lies latent, therefore, everything that exists. 'In it there is everything that is finite and which stands forth by a long series of finites.'" Professor Klason further discusses Swedenborg's principle that what occurs in the macrocosm also occurs in the microcosm, and then passes on to the real cosmological evolution of the system of the world, according to Swedenborg's hypothesis. He then continues: "We will not follow his presentation further than to the origination of that primæval element which, according to Swedenborg, is considerably finer than our modern electrons. For he regarded electricity as something material of molecular structure, as, indeed, it has come to be regarded in most recent times. And light was to him a phenomenon of vibration in the ether, as was shown later by Fresnel."

In concluding this brief account of the activities of the Stockholm Committee, I desire to express the hope that the movement inaugurated during recent years may be continued until the edition of the Academy of Sciences shall have been published, and the basis laid for future translations and for that profound study of Swedenborg's scientific works and theories which will follow the publication of his works. I have been informed that the Swedenborg Society has decided to print an English edition of Swedenborg's scientific works, a project which we in Sweden view with great satisfaction.

As a token of greeting from the members of the Stockholm Committee I desire on their behalf to present to the Society this portrait of Swedenborg, a copy by the Swedish artist Jean Haagen of the excellent oil painting by Pehr Krafft, sen., preserved in the Castle of Gripsholm.

Prof. O. M. Ramström, of Upsala University: In the name of the Anatomical Institute at Upsala I desire to offer our hearty thanks for the kind invitation to take part in this Congress.

We know very well how to appreciate and to partake of the feelings which are moving the members of the honoured Swedenborg Society and this Congress. Because, every one who has studied the works of Swedenborg somewhat closely cannot but be filled with admiration of the great spiritual gifts which he enjoyed, and with love of the remarkable character of this prophet of purity and love! Therefore we desire to give an expression to our best wishes for the honoured Swedenborg Society, and this Congress!

In recent years the interest in the works of Swedenborg has

considerably increased in Sweden, especially since the return of his earthly remains to his fatherland. And now I should like to say some words about this interest and the results which have followed this removal.

In order to identify the cranium of Swedenborg an examination of the remains has been made by Committees at Upsala.

Two years ago the earthly remains of Emanuel Swedenborg were brought over from England to Sweden with great solemnity and honour. In England they had rested in the vault under the altar of the Swedish Church in London during nearly a century and a half; and they are now deposited in the Cathedral of Upsala, where several of our kings, archbishops, generals and many prominent scientists, as for instance Olaus Rudbeck and Carl von Linné, have their last resting-place.

But soon the solemn feelings were disturbed by certain rumours and voices, which coming over from England insinuated that there was not much of the remains of Swedenborg in the casket that was said to contain them, and that the cranium lying therein, in point of fact, was not Swedenborg's. On account of these rumours the professors of the Anatomical Institute in Upsala, Edward Clason, Prof. T. August A. Hammer, Vilhelm Hultkrantz, and Martin Ramström, were appointed by the Royal Scientific Society of Upsala to examine the contents of the casket.

On the twenty-ninth of May 1908 this examination was commenced with the opening of the casket in the presence of representatives of the Royal Scientific Society of Upsala, the Cathedral Chapter, Members of the Medical Faculty, and others. After opening the triple coffin whose name-plates show the name, age, and death-day of Swedenborg, not much was seen at the first glance !—only one bone of an arm and a cranium—and now it was not difficult to see the cause and origin of the first rumour that there was not much of the remains of Swedenborg in the coffin. But after removing the mould and the remains of an old coffin, there was found a nearly complete skeleton.

The lower part of the skeleton was best preserved and was still enveloped in its shroud; the middle part was a little displaced owing to a break in the bottom of the innermost or leaden coffin; the upper part of the skeleton was partly mouldered, excepting the skull, which was in very good condition. The mouldering seemed to have been caused by the access of air through an opening that had been made in the

upper end of the lid of the leaden coffin. Thus, the first part of the examination was accomplished, and the first rumour was disproved. Nearly the whole skeleton of Swedenborg, partly in very good condition, is present in the coffin.

But the second rumour, that the cranium was not Swedenborg's, upon what foundation was that based?

As to this question many examinations were made by the Committee, historical, anatomical, comparative photographical, and anthropological.

The historical examination, which has been made by Professor Vilhelm Hultkrantz, with the assistance of Professor Edward Clason, the distinguished Swedenborg researcher, Mr. Alfred Stroh, M.A., and Rev. J. Lindskog, the Pastor of the Swedish Church in London, has produced chiefly the following results:—

On the fifth of April 1772 the coffin of Emanuel Swedenborg was deposited in the vault under the altar of the Swedish Church in London.

In the year 1790, that is, eighteen years after the death of Swedenborg, the coffin was opened at its head by somebody through curiosity.

And a few days later it was again opened by Mr. Robert Hindmarsh and some other members of the New Church. On that occasion it was established that the face still was in a very good condition, and that its features bore a close resemblance to the portraits of Swedenborg. The coffin was again closed, but badly.

In the year 1816, that is, forty-four years after the death of Swedenborg, on the occasion of a burial in the vault, the cranium seems to have been removed from the coffin by a certain Captain Ludvig Granholm. But three years later, in 1819, when he was lying upon his death-bed, he sent for the Pastor of the parish, Rev. Johan Petter Wåhlin, confessed to him the robbery and delivered the cranium into his hands.

During the next four years, that is, until the year 1823, the cranium was in the custody of Pastor Wåhlin and Mr. Charles Augustus Tulk, a Member of the House of Commons, who was in possession of a phrenological collection; and that year on the occasion of the next burial it was replaced in the coffin in the presence of Pastor Wåhlin and Mr. Tulk and Mr. Nils E. Nordenskiöld, a mining-expert from Finland, the father of Baron Adolf E. Nordenskiöld, the North-pole explorer. Three casts of the cranium were made before it was re-deposited.

With the exception of the year 1853, when the old crumbled

wooden coffin was replaced by a new one, the remains of Swedenborg seem to have been undisturbed until 1908, that is, the year of their removal from England to Sweden.

It was thus during the seven years from 1816 to 1823 that the cranium in question had been absent from its hallowed resting-place, and it was upon that circumstance that the second rumour was based, that the skull of Swedenborg had been replaced by another.

The historical examination, however, has established that the stolen cranium was returned by Captain Granholm as he was lying upon his death-bed; and it is psychologically impossible that the dying man should have sent for his parish Pastor, bear in mind, spontaneously, in order to deliver a false "cranium" into his hands!

During the following four years the cranium was in the custody of Pastor Wåhlin and Mr. Tulk, the Member of Parliament, both known as trustworthy and honourable men!

It is quite impossible that after that time the real cranium could have been stolen again and exchanged for a false one; because the cast, which was taken on the occasion of the replacing of the skull, and of which we have had a copy at hand, evidently is an ectypum, a manifest copy of that cranium which is now resting in the coffin.

This conclusion, that the cranium in question is Swedenborg's, is in full accordance with the results of the following examination:—

Thereby it has been established that the lower part of the skeleton never was displaced out of its shroud nor out of the inner leaden coffin, which bears the manifest marks of the nameplate of Swedenborg. And the several bones of the whole skeleton fit quite well to each other. The same is true of the cranium.

It is true that the upper vertebræ of the backbone are in a very advanced stage of decay owing to the more extensive mouldering of that part of the skeleton; but the lower jaw, which, judging from its degree of mouldering, probably never was removed from the coffin, exhibits such remarkable signs of correspondence to the upper jaw of the cranium, that they evidently belong to each other. Consequently, on this account, it is highly probable that the cranium as well as the rest of the skeleton really is Swedenborg's.

This is also verified by a comparison with the portraits of Swedenborg. All of them exhibit not only such high orbits and such relatively narrow temples, but also such a narrowed and prominent chin as do the cranium and the lower jaw.

Further, this statement has been confirmed by a photographic examination by Professor Hultkrantz, from which it appeared that the image of the cranium and its lower jaw projected upon the portraits of Swedenborg, on the vision plate of a photographic camera, fits excellently into the contours of the portraits.

Furthermore, Professor Hultkrantz has tried to build up the features of Swedenborg upon the cranium according to the methods of Professors His and Kollman by applying a plastic substance according to certain measurements on the different points of the skull. And the result is satisfactory, particularly from the standpoint of identification. I may mention, for the benefit of those who desire to study this examination more closely, that this autumn a full account will, through the kindness of Mr. Stroh, be printed in an English translation in the *Acta* of the Royal Scientific Society of Upsala.

Finally, I have the pleasure to deliver to the honoured Swedenborg Society from the Anatomical Institute of Upsala a copy of the bust, constructed in the above-mentioned manner, as a memorial of this demonstration of identity of the cranium of Swedenborg.

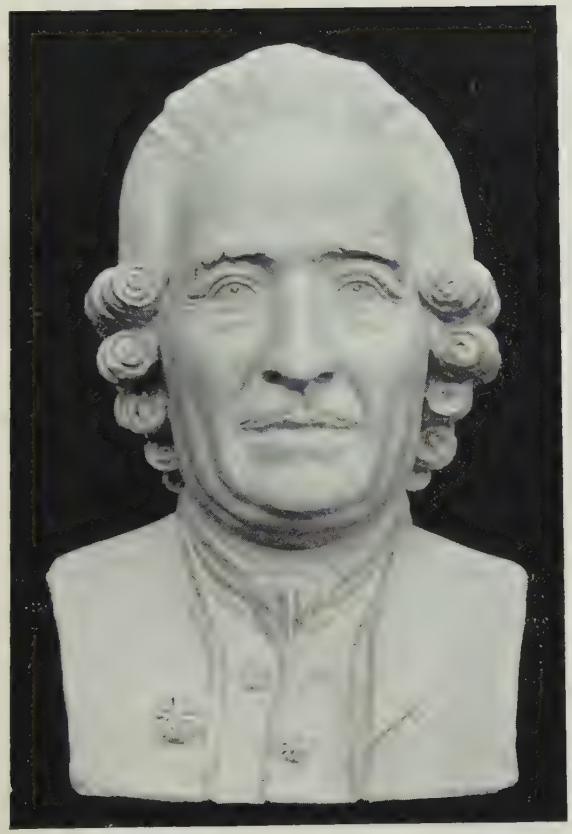
Besides, we have thought that you would be interested to possess a visible remembrance of the earthly remains of the great seer; and on this account we have moulded an ectypum of his cranium, which was the dwelling-place of that wonderful organ of genius which first discovered to us the real seat of the soul's activity.

In the name of the Anatomical Institute of Upsala I have the honour to present you with this ectypum.

Having now briefly described the activities of one of the Swedenborg Committees at Upsala, I shall also say a few words concerning the progress made by another Committee of which, however, I am not a member.

After the remains of Swedenborg had been deposited in the Cathedral of Upsala (on the 19th of May, 1908) the following persons were constituted a Committee to provide for a suitable sarcophagus: the Rector Magnificus of the University of Upsala, Professor Schück, Captain G. W. E. Swedenborg, the caput familiæ, Dean J. E. Berggren, Professor Lundström, Professor Dunér, Professor Tullberg, and Pastor N. J. Söderberg.

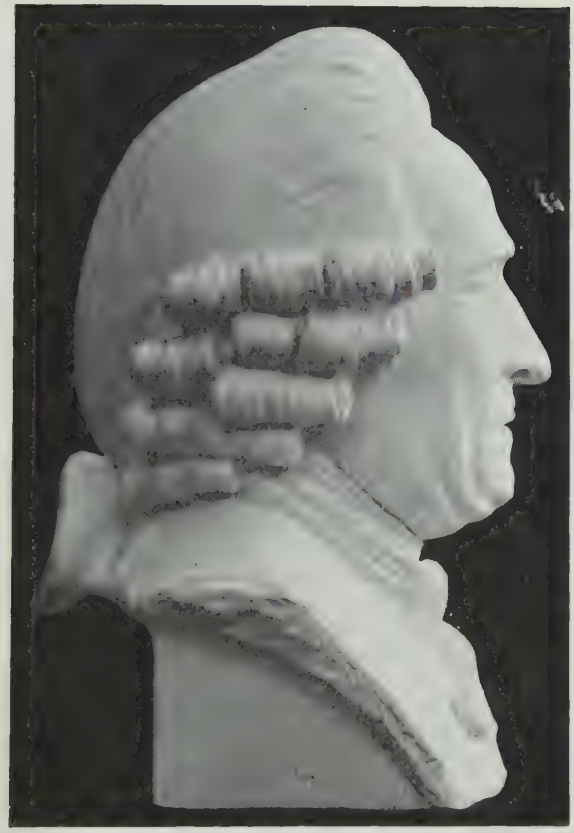
In the spring of 1909 the Swedish Parliament voted an appropriation of 10,000 kr. to provide for the sarcophagus; and the Committee has accepted the plans of the Court Architect, Lindegren, according to which the sarcophagus



NO. 1 [*p.* 38

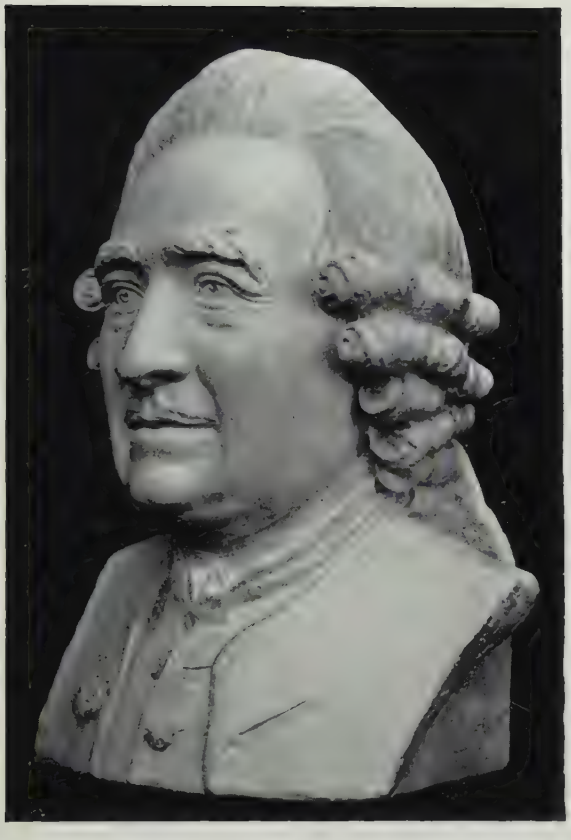
BUST CONSTRUCTED ON SCIENTIFIC PRINCIPLES ON THE BASIS OF SWEDENBORG'S SKULL

by Prof. J. W. Hultkrantz, Upsala



No. 2 [*p.* 38

PROFILE OF BUST



NO. 3 [*p.* 38

THREE-QUARTERS FRONT VIEW OF BUST

will be of red granite, with a bronze medallion modelled by Professor Lundberg, showing Swedenborg's portrait in profile, and with bronze ornamentation. Since this plan has also been accepted by the Swedish building authorities and by the Government, this imposing monument to Swedenborg's memory will no doubt be unveiled next November in connection with the bicentenary celebrations of the Royal Scientific Society of Upsala.

Mr. ALFRED H. STROH, M.A., of Stockholm: The investigations of Swedenborg's works, in manuscript and in print, which have been carried on in Swedish archives and libraries since 1902, have resulted in the collecting of a large body of new evidence concerning his life and literary labours. It is out of the question to attempt to give on this occasion a complete description of these investigations of Swedenborgiana, which are for the most part preserved in Sweden, but sometimes beyond its borders. I shall do no more than indicate what use may be made of the list of new works, memorials, letters and miscellaneous documents by Swedenborg which have been found since 1902, including also others discovered by various investigators since 1875–1877, when Dr. Rudolf L. Tafel edited his fundamental *Documents concerning the Life and Character of Emanuel Swedenborg.*

The new materials discovered since the *Documents* appeared may be classified in a general way as consisting of—

1. New works and memorials, which we have referred to below by the numbers under which they are entered in "An Abridged Chronological List of Swedenborg's Works," just published.
2. Letters written by or to Swedenborg.
3. Miscellaneous documents.

Of this new material, the poems and some of the early scientific MSS. are published to-day in the festival publications from Sweden, and others will appear in the new edition of Swedenborg's works now being published at Stockholm under the auspices of the Royal Swedish Academy of Sciences. This is one of the most important means now being employed to edit hitherto unpublished works by Swedenborg, and the theological works are being phototyped by the Swedenborg Society, the Academy of the New Church and the General Convention of the New Jerusalem. These bodies and the Swedenborg Scientific Association have also supported the general scheme of investigating and publishing Swedenborgiana in Sweden, and they have recently been

reinforced by the Swedish New Church Publishing Society of Stockholm, which has begun the publication of a series entitled *Swedenborgiana*, to contain the rare MSS. which form the basis of our knowledge of Swedenborg's life and development.

From the appended list of new Swedenborgiana it may be seen in what order the publication of numerous original documents is planned for in the phototyped series of *Swedenborgiana*, and it is also indicated how the various documents should be included in the proposed *Swedenborg Archives* or new edition of *Documents concerning Swedenborg.*

In conclusion, it gives me great pleasure to be present on this occasion, the 100th anniversary of the Swedenborg Society and the 200th anniversary of Swedenborg's first visit to this city in 1710, when, as he himself records, his preparation by means of the sciences was begun, and to lay upon the table of the Congress this festival publication, a *facsimile* reproduction of Swedenborg's first work, published at Greifswald in 1715 after his visit to England: *Festivus Applausus in Caroli XII in Pomeraniam suam Adventum.*

Professor Neuburger spoke in German to the following effect: I have come only in a private capacity, not as the representative of a learned corporation, therefore I am much surprised at being honoured by a special call of the President, which is an honour as great as it is undeserved.

When, with your permission, I speak in my native language, it is because I can in it express my feelings more exactly; and it should not be forgotten that in the German language, as early as the second half of the eighteenth century, some of the leading ideas of Swedenborg were published in a philosophical and poetic manner. I refer to the works of Herder and Goethe, whose *Faust* is in part a poetic paraphrase of Swedenborg's philosophical and religious ideas.

But many words are not required to express my sentiments; only the two simple words: admiration and congratulation—*admiration* of the great thinker and investigator, Swedenborg; *congratulation* to the Swedenborg Society, and the wish that it may flourish abundantly in the second century of its existence.

All its noblest intentions which are manifested in a splendid manner by this Congress—may they be accompanied and followed by great successes. *Quod felix faustumque sit.*

AFTERNOON SESSION

Section I.—SCIENCE

The President: I have to introduce the Chairman of the Science Section. Mr. Rendell has been a student all his life, and has associated his studies of New Church Doctrine with those of science. He was a teacher of Science in a distinguished college, and I am sure you will be glad to hear his opening address in this section.

CHAIRMAN'S ADDRESS

By Rev. J. R. Rendell, B.A.

First, I have to acknowledge the honour done to me by the invitation to occupy the chair to-day, when we are to discuss some of the scientific work of Emanuel Swedenborg, especially those brilliant conceptions in which he outran his contemporaries, and even anticipated modern explanations of the universe. We are to review his work as an inventor, engineer, metallurgist, physicist, chemist and biologist, work done in the early part of the eighteenth century. Though he quotes, as a motto for one of his physiological works, the words of Seneca: "Venient, qui sine offensa, sine gratia judicent" (there will arise those who will judge without fear and without favour), yet he could hardly have imagined such a critical yet sympathetic assembly—international, too, in its character—as we have here to-day.

In looking over the scientific work of Swedenborg we are greatly impressed by the extent of the territory which he explored. Without fear, he made many a magnificent dash into an unknown land, and, as might be expected of even the most skilful explorer, he often saw imperfectly, or only partially interpreted what he saw. Like much that was written by his contemporaries there are many of his statements that have not stood the tests of time. His chemistry is certainly very vulnerable. Some of the mathematics of his *Principia* are incomplete, as for instance his attempt to express in mathematical form the curve described by the earth as it proceeded spiralwise from the sun. His elaborate attempts to calculate the magnetic deviation for every year from his day up to the present time have not been verified by the events.

But such errors of observation and of judgment have been the lot of every great explorer. No one to-day would accept

the theory of phlogiston proposed by George Ernest Stahl (1660–1734) and which survived to the end of the eighteenth century. Robert Boyle, whose memory is perpetuated in the law known by his name, wrote much that to-day only provokes a smile. Sir Isaac Newton's corpuscular theory of light finds no favour now. We wonder at the wildness of the speculations of the chemists of the eighteenth century; and the theory of caloric was not abandoned till about sixty years ago. Every truly great man must fall into some errors by the very reason of his boldness. Swedenborg fell into some of the scientific errors of his time, but every one who has had the patience to delve into his mine has found much precious metal. Some of our great scientific leaders, especially those in biology, must feel inclined to say, "Pereant qui ante nos nostra dixerunt."

One of the great difficulties in the way of a just appreciation of the scientific value of the work of the early years of the eighteenth century is that of understanding a world without a knowledge of oxygen, of the composition of water and the atmosphere, in ignorance of the electric current, of spectrum analysis, of photography and its many applications, and of the great doctrine of the conservation of energy. Nor must we forget that the experimental resources of that age were crude, for the engineer was without tools of precision. I have recently read the works of that great Englishman, Robert Boyle, and the chief papers on physical subjects in the Transactions of the Royal Society from the first volume up to the time of the publication of Swedenborg's *Principia*, and I am astonished at the crudeness of the apparatus employed. At that time the air pumps, frictional electrical machines, thermometers, barometers, magnetic apparatus, balances, microscopes, and telescopes were all very poor contrivances. That the investigators did such good work, that the astronomers observed so accurately, and that the biologists and anatomists made out so much of the structure of vegetable and animal tissues is a source of wonder to me. To-day, however, we have the adage, "Science is measurement." Physicists deal every day with heat to an accuracy of a thousandth of a degree Centigrade, and variations of a millionth of a degree are easily observed with suitable apparatus. They measure with confidence a millionth of a millimetre, while the working chemist weighs to the hundredth of a milligram.[1] In the eighteenth century such accuracy was not even thought of.

[1] A balance has been recently constructed that estimates the 250,000th of a milligram.

The balance—that powerful engine of research both for chemist and physicist—was then a very poor contrivance. Even in later days we find the great John Dalton working out his inductions with the aid of balances that are not nearly so accurate as those used now in our public elementary schools. But in contrasting the old and the new facilities for experiment and observation we must remind ourselves that however desirable the finest apparatus may be, the scientific imagination is the essential factor of all real advance. Indeed, the complaint to-day is that accurate scientific observations abound on every hand, but that they are not exhaustively examined and discussed, nor are they followed by the presentation of any new general principles.

Though struggling with poor instruments and, save for Newton's magnificent generalizations, without definite principles, the philosophers of the early part of the eighteenth century were singularly confident and proud of their attainments. In his introduction to his little work *On Chemistry*, Swedenborg says, "If we look to Physics we shall find that it abounds in experiments and discoveries! More light has been shed upon it in the way of experiment during the last century, than in any previous age; indeed, so far as facts are concerned, it has reached a meridian degree of brightness. If we consider Chemistry, with what experiments is it not enriched! So greatly has it exercised the industry of the learned that we possess thousands of guides towards penetrating its secrets. If Geometry, to what a height has it not been carried by the men of science of our time! It seems to have scaled the sacred hill, and for all human purposes to have attained the utmost perfection." Perhaps some of our scientific leaders, with confidence in their translucent generalizations, might have penned these words as applicable to us to-day. Yet it is pretty certain that posterity will look upon them, if penned to-day, with the same questionings that occur to us when we read Swedenborg's *Chemistry*. They will wonder, as we do with respect to past workers, that we entered the sacred temple of knowledge, but saw its beauty so very imperfectly.

Swedenborg's training at the University of Upsala seems to have had a scientific bias, an astonishing arrangement in those days for the son of a bishop. His teachers were followers of Newton and Descartes. That he saw the chief electrical and chemical experiments of the University course may be taken for granted. It is not so clear how he acquired his astonishingly accurate knowledge of anatomy; but it is a significant fact

that in the cupola of the Gustavanium, the building in which he disputed his first thesis, Rudbeck for the first time in Sweden had dissected the human body. In whatever way his interest was stimulated in the first instance he did credit to his teachers by his fearlessness and the keenness of his interest in the chief scientific problems of the day. There is documentary evidence that his mind was even too active for some of his friends. As a gentle protest against a remonstrance that he should be more content to work in the beaten path, he declared that "he desired a novelty every day."

His scientific career began with the publication of the *Dædalus Hyperboreus*, the first scientific journal published in Sweden, of which six numbers were issued. It is remarkable for the variety of subjects it deals with. It is so interesting to us to-day that we are willing to overlook the many printer's errors that are found in it. He was the editor and chief contributor. In it he describes apparatus invented by his patron and friend Christopher Polhem, and also some of his own inventions, including things so far apart as a new form of air pump worked by water and depending on the Torricellean principle, a flying machine, a coal or mineral conveyor, and a gun with many barrels.

Then followed a work on Algebra. We find in subsequent pamphlets and in his work *On Chemistry* discussions of practical and theoretical questions of many kinds. He suggests improvements in the ordinary Swedish household stove, the use of an experimental tank for the testing of ship models, and a method of determining the proportion of metals in an alloy by the principle of Archimedes. He also published pamphlets on docks, and the determination of longitude by the observation of the position of the moon among the fixed stars. His observations and remarks on the arrangement of strata and the fossils found in Sweden mark him as one of the founders of the science of geology. So far as I am aware, he was the first to suggest a system of crystallography—a system indeed quite vulnerable, but still a brave effort. But it is in his *Opera Philosophica et Mineralia* that we find the consummation of his labours to unfold the secrets of the universe. This work, in folio, with fine engravings, covers the origins of universes from chaos, and the production of worlds. It includes a treatise on magnetism, and two large volumes on the manufacture of iron and copper. Of this great work we shall hear during the present session.

But now he turns to vital phenomena. He had shown

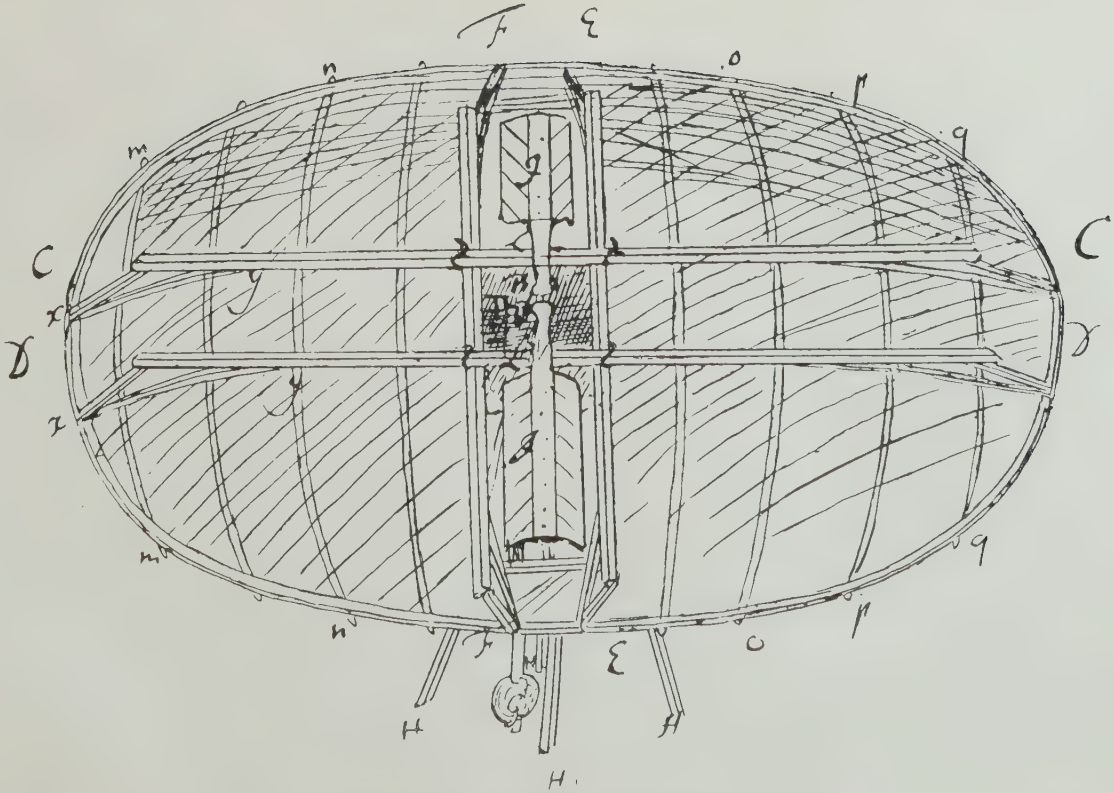


Fig. 1.—FLYING MACHINE

[p. 45

some interest in this subject in a paper in the *Dædalus*, in which he tried to show that "Our vital essence consists for the most part of small vibrations." We have now the works *Œconomia Regni Animalis* and the *Regnum Animale*. About the same time he must have written the great treatise on *The Brain*, the first two volumes of which were translated by the Rev. R. L. Tafel, and printed in 1882. We are hoping to see the third volume in the near future. Concerning these treatises some who can speak with full knowledge and authority will shortly give us their judgment.

In introducing the work of to-day I have thought that I might usefully refer to a few topics which, so far as I am aware, are not to be referred to in any of the papers, viz. some of Swedenborg's inventions, and his theories as to the nature of heat, light and magnetism. The limitations of time will only permit me to refer to three of the former—a flying machine, a conveyor for ores, and an air pump.

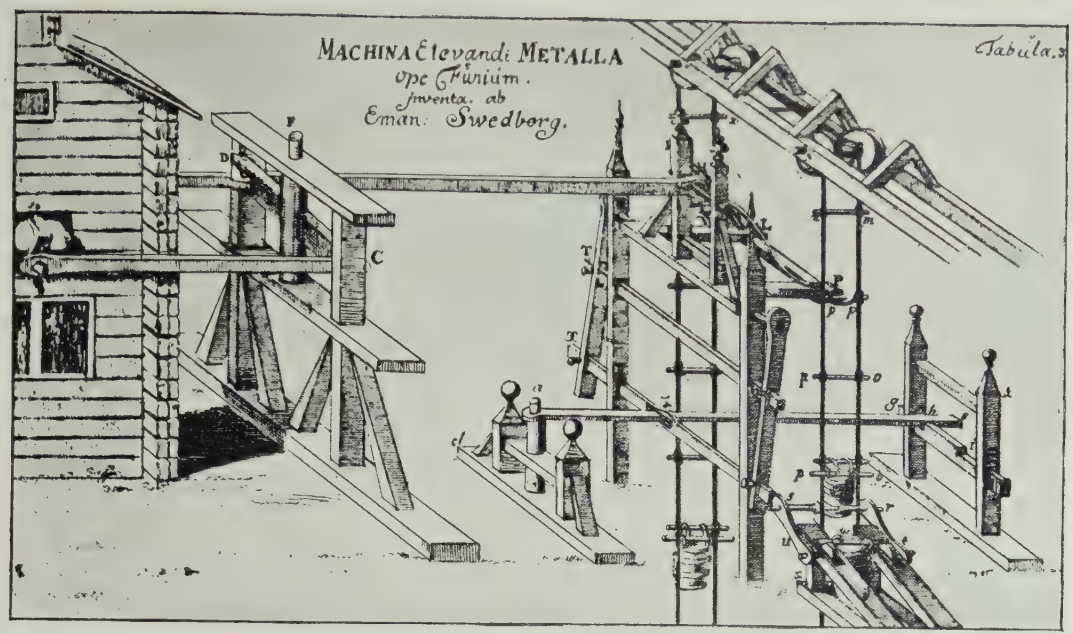
The flying machine is briefly described in the *Dædalus*, and a sketch of it is preserved among the letters written to his brother-in-law, Eric Benzelius. A photograph of this sketch is now on the screen (fig. 1). It consists of a light frame covered with strong canvas, provided with two large oars or wings moving on a horizontal axis, but arranged so that the up-stroke meets with no resistance, while the down-stroke provides the lifting power.[1] He knows quite well that his machine will not fly, yet he suggests it as a start and is confident that the problem will be solved. He says, "It seems easier, however, to talk of such a machine than to put it into actuality; for it requires greater force and less weight than exists in the human body. The science of mechanics might perhaps suggest a means, viz. a strong spiral spring." This, of course, was before the petrol engine was thought of. He adds, "If these advantages and requisites are observed, perhaps in time to come some one might know better how to utilize our sketch and cause some addition to be made so as to accomplish that which we can only suggest. Yet there are sufficient proofs and examples from nature that such flight can take place without danger—although when the first trials are to be made you may have to pay for the experience, and not mind an arm or a leg." He quotes approvingly a humorous passage from Fontenelle: "Do we pretend that we have discovered everything, or have brought

[1] A model made to Swedenborg's sketch, and constructed by the chairman, was shown to the assembly. A full account of the machine was published in the July issue of the *Aeronautical Journal*.

our knowledge to a point where nothing can be added to it? Oh, for mercy's sake, let us agree that there is still something for the ages to come to do." I may add parenthetically, that this anticipation of the flying machine was one of the evidences of aberration alleged by Dr. Maudsley about fifty years ago. We know now who was the wiser of the two.

The conveyor, a photograph of which is now before you on the screen (fig. 2), may seem to us a very simple conception, but it is the first time the idea seems to have been published. In those days, before the invention of the steam engine, water power was used when available. Where this was not available horses were used. In the case of a mine there are cables which move upwards and downwards alternately. Swedenborg suggests that it would be a better plan to have the cables moving continuously, so while the buckets are raised on the ascending side they may be lowered by the descending side. This is the principle of the modern conveyor.

The air pump mentioned in the *Dædalus* can be best appreciated in contrast with the pumps that were used in his day. We have, for instance, the pumps used by Boyle before the advent of tools of precision. The cylinders were very badly bored, and the pistons were roughly packed. It was worked by the feet in stirrups. Often the pump was kept working all the time that an experiment was being performed. Swedenborg suggests the use of the Torricellean principle, and employs a column of about thirty-five feet with an arrangement to raise or lower the column, suitably arranged outlet and inlet valves being provided. No doubt it would rapidly produce a good vacuum, though it would not remove the water vapour. The two pictures on the screen show us the details of the arrangements (fig. 3). Later, however, he substituted mercury for water, thus diminishing the size of the apparatus and making it more effective. The diagram of this mercury pump now before us is taken from the *Miscellanea Observata* (fig. 4). A tube, *mgf*, is filled three parts with mercury. There is a flexible leather joint at *f*. The raising and lowering of the tube, *mg*, raises and lowers the level of the mercury in the vessel below the plate *Ad*. The valve under the receiver *B* opens downwards, the valve *c* opens upwards. Professor S. P. Thompson, F.R.S., who is a great authority on the history of physical science, in his monograph on mercurial air pumps, reproduces the original diagram, declaring that it is the first mercurial air pump, and that if fitted with the valves usual in those days it would be an effective instru-



F g. 2. — CONVEYOR, OR MACHINE FOR RAISING MINERALS WITH THE AID OF ROPES
From the *Dædalus Hyperborcus*

p. 46

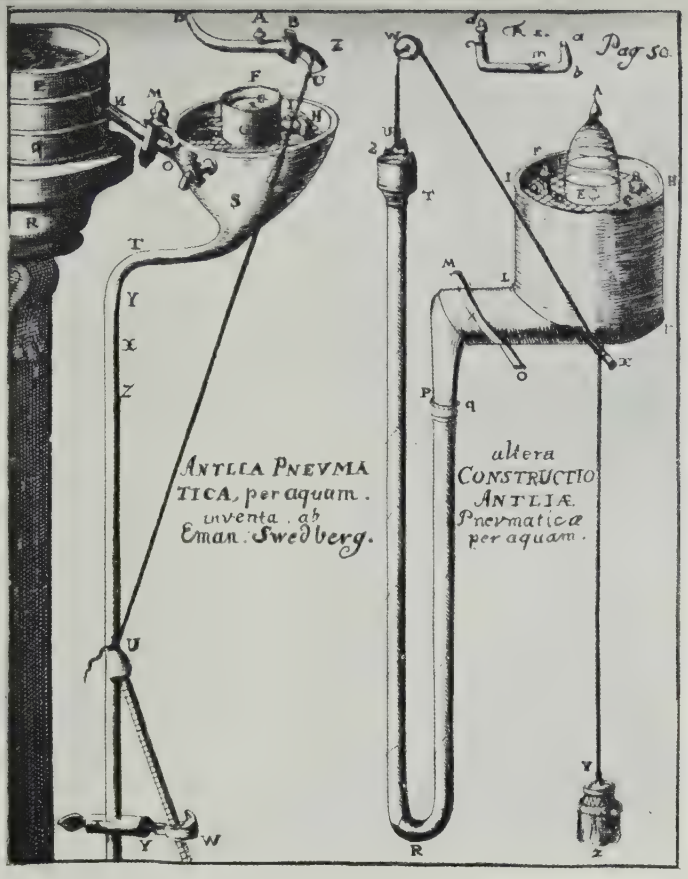


Fig. 3.—PUMP TO BE WORKED BY A COLUMN OF WATER

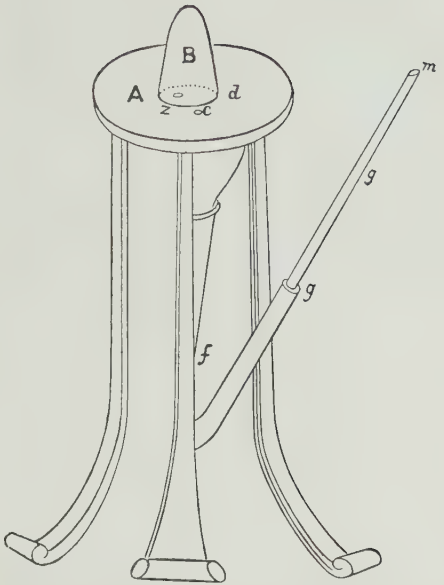


Fig. 4.—MERCURIAL AIR-PUMP

ment. You have before you now a working pump made from Swedenborg's description.

Though Swedenborg has left no treatise on light or heat, yet there are many passages in his works which show that his views of heat and light were far more lucid than those of many of his contemporaries. In his day, and indeed in our own times, heat was regarded as a subtle fluid. A writer in the *Encyclopædia Britannica* of 1797, says, "The disputes which formerly were so much agitated in the learned world concerning the nature of heat, whether it consisted merely in the motion of terrestrial bodies or in that of a subtle fluid, are now mostly ceased, and it is almost universally believed to be a fluid." This view, called the theory of caloric, held the field till 1830, when the great physicist, Carnot, put forward the modern view. But its acceptance was slow. When I was a boy I was taught the caloric theory. The great *Penny Cyclopædia* says, "Caloric is the name given to that agent which produces the phenomena of heat and combustion. It is hypothetically regarded as a subtle fluid, the particles of which repel one another and are attracted by all other substances." Gradually the opinion that heat is the result of a motion of atoms or molecules has gained ground, and from the popular point of view was at last authoritatively and brilliantly expounded by Tyndall in his work entitled *Heat as a Mode of Motion.* But so long ago as 1740 Swedenborg propounded the statement, "What is heat? The rational mind, educing principles out of principiates, knows of heat as no other than a vibration (*tremiscentia*) and gyration of the active parts of the body. It may thus be seen that nothing real exists in heat, fire, or cold, since they are only the affections and qualities of trembling and gyrating substances, or, on the contrary, of such as are quiescent."

With respect to light, the wave theory was first stated by the Jesuit Pardi, and given mathematical treatment by Huygens in 1678. The authority of Newton, however, supplanted Huygens' theory, and, till the days of Young, was all but universally received. Swedenborg was familiar with the works of Newton, for in one of his letters he says, "I read Newton every day"; but he did not accept his corpuscular theory of light. He says, in his *Miscellanea Observata*, "Light is nothing more than the undulation of rays, or the vibration of the ether." In the *Principia*, he declares, "Motion diffused from a given centre through a contiguous medium or volume of particles of ether, produces light. The rays from the sun will undulate through the whole sky."

And with regard to our sensation of light, he says, "I am not aware that there is any impropriety in assuming that sight or vision consists in the undulation of rays in the membranes of the eye." He does not state the kind of vibration, and it is not at all improbable that, like Huygens, he thought of longitudinal waves, like those of sound, and not transversal. But he saw clearly that light and heat, from the point of view of physics, are modes of motion in the substance where they are observed.

This suggests to us the consideration of the proximate causes of all physical, chemical, and biological phenomena. To-day, physical science, which seems to be absorbing chemistry, is tending to establish the theory that all the chemical elements and their multifarious combinations are but wonderful assemblages and coalitions of one primal element, a *materia prima*, perhaps, of what is now called the electron. This electron, by its movements, fashions the atom, and the atom the various substances of the universe; the fundamental idea being that all the varieties of substance and changes of form and property are due to motion. Swedenborg enunciated the conception long ago. In the brief introduction to the work *On Chemistry*, he asks, "What are physics and chemistry? What is their nature if not geometrical? What is the variety of experiments but a variety of position figure, weight and motion in particles?" Indeed, this conception of motion being the fundamental fact of all phenomena runs right through all his scientific work. In this respect, so far as I am able to judge, he was far ahead of his contemporaries.

The modern theory of magnetism supposes that about each molecule a current is moving, and that on the action of these currents the attractive or repulsive forces of a magnet depend. I do not refer to any refinements of the theory. The difficulty as to the maintenance of the current is overcome by the supposition that there is no friction, so that if the current be once started it will go on continuously. It is obvious that there can be no resistance or the magnet must rise in temperature. Swedenborg knew nothing about the electric current, for it was not discovered in his day. But in one of his diagrams he shows us something moving or gyrating round the magnet. He says, "Corpuscles cannot be quiescent, but gyrate continually round their centres conformably to the situation of the elementary particles." He is quite clear that the surrounding sphere is the result of some gyration about the individual molecules, for he says, "The sphere itself remains

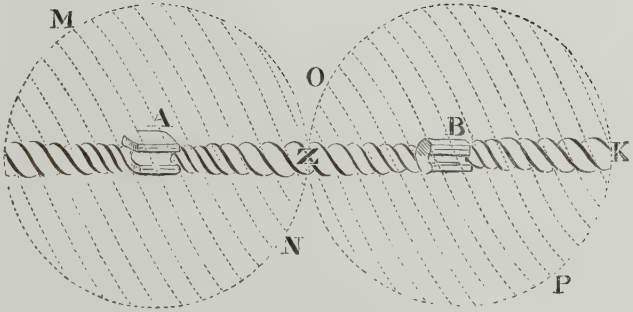


Fig. 5.

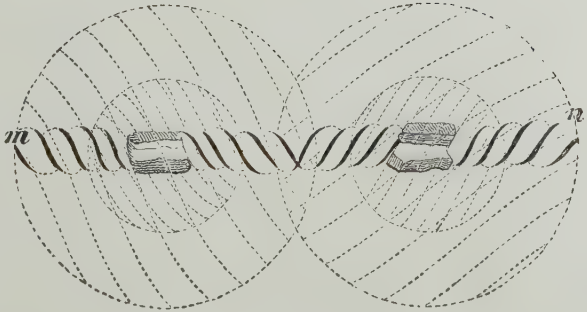


Fig. 6.

MAGNETIC ATTRACTION

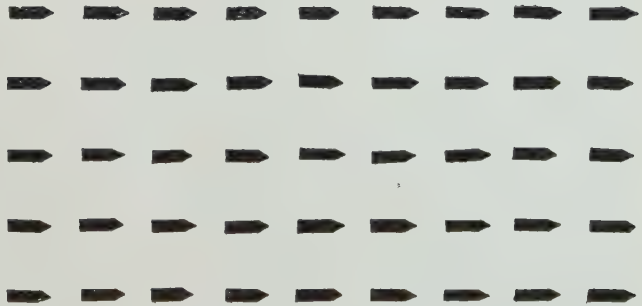


Fig. 7.—MAGNETIC NEEDLES IN FIELD OF FORCE

Fig. 8.—MAGNETIC NEEDLES FREE TO MOVE IN A FIELD OF NO FORCE

[p. 49

attached to the magnet by the gyrations of the individual parts."

He declares that when two magnets have their movements so arranged that the spirals concur in direction there is attraction, while if they are in the opposite direction they repel each other. What he says by way of explanation, in the light of modern knowledge, seems somewhat vague, but he is evidently on the right track—a very wonderful thing when we remember that the electric current was not known, much less the electro magnet. The diagrams, too, suggest the winding of an electro magnet (figs. 5 and 6).

But with respect to the molecular constitution of the magnet, he was clearly the anticipator of the theory attributed to Weber. In this case his diagram and explanation are very clear and might have been written for a text-book to-day. The modern theory, as expounded by Professor Ewing of Cambridge, is that every molecule of a piece of iron is by nature a magnet, but that in an unmagnetized rod the particles have their poles turned in every direction, so that they neutralize one another and in consequence they do not produce any external field of force. This view may be illustrated by showing the movements of a series of magnetic needles placed very close to one another. Here we have a number of magnetic needles in one plane. If there is no external magnetic field they will arrange themselves as in fig. 7. If, however, a strong external field is brought to bear on them, they will take up a position as in fig. 8.[1] The theory may also be illustrated by the well-known experiment with a tube of steel filings. The tube as a whole shows no magnetic power, but if it is magnetized as if it were a bar, it forthwith behaves as a magnet. When, however, the tube is shaken the magnetism at once disappears. Swedenborg says, "By the application and contact of the magnet and the iron, we observe that in the structure of the iron all the effluvia which are perfectly or partially free are disposed into a regular arrangement, and that the iron is thus rendered magnetic. It is for this reason that from a regular arrangement of the parts within the iron magnetism exists; consequently poles and axes are formed; and around the axes a regular sphere, the circles of which, by their perpetual connection with one another, maintain a relation to the axes and the axes to the iron. . . . No increase of weight is produced in iron by rubbing it against a magnet; but the smallest parts of the iron are drilled into a straight line, and, being

[1] This experiment was projected on the screen by the lantern.

partly loosened by rubbing against the magnet, are turned round and brought into a definite order. And thus it is that magnetism is communicated to iron; therefore the magnet experiences no loss of its forces, since one magnet alone would suffice to render magnetic all the iron in the world." The two diagrams which show the arrangement of the molecules, might do duty to-day in Professor Ewing's work entitled *Magnetic Induction in Iron and other Metals* (figs. 9 and 10).

In conclusion, I have to say that I believe that no one here has any desire to exaggerate in any way the importance of the scientific work of Swedenborg. Our object is to secure a just appreciation of the scientific work of a great man, one who has pleaded that "full liberty must be granted to all who philosophize in a philosophical manner, nor have we any reason to apprehend from such a liberty any danger either to religion, to virtue, or to the State."

The PRESIDENT: I have now to propose that the following message be sent by telegraph to His Majesty the King of Sweden:—

"The Members of the International Swedenborg Congress, assembled to do honour to the work of Emanuel Swedenborg, scientist, philosopher, and theologian, venture to send their respectful greetings to your most gracious Majesty, as king and ruler of the race, one of whose illustrious sons he was, whom we now honour, and who is destined, as we believe, to live in the world's history clothed with immortal fame."

SWEDENBORG ON THE SPINAL CORD

By Professor Max Neuburger, M.D.,

Professor of the History of Medicine in the University of Vienna.

Everybody that has made even a slight acquaintance with the two chief anatomical-physiological works of the Swedish Aristotle knows that there is scarcely a chapter in them but surprises us with brilliant anticipations of modern science.

Wherever we penetrate into the mine of Swedenborg's physiology we strike a vein of precious metal so rich that the united strenuous efforts of several savants will be needed to raise the whole of it. As yet attention has been confined almost wholly to that great man's achievements in the department of the physiology of the brain. One reason for

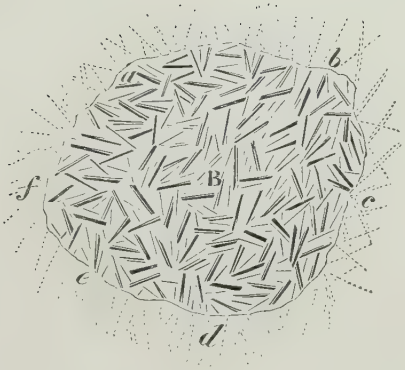


Fig. 9.

ROUGH PIECE OF IRON BEFORE IT HAS BEEN MAGNETIZED

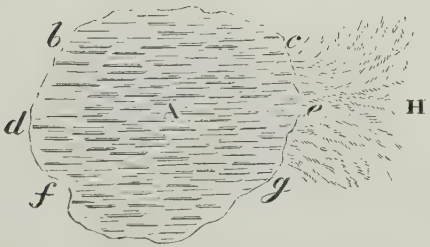


Fig. 10.

THE IRON AFTER IT HAS BEEN MAGNETIZED

[p. 50

this is that he himself, in his search for the soul, attached great importance to that physiology; while another is perhaps to be found in the fact that in no other department is it so clear how high Swedenborg stood above his contemporaries, and how largely his scientific ideas agree with the results of the most modern researches.

Here I would refer only to Swedenborg's theory regarding the respiratory movement of the brain and the liquor cerebro-spinalis, to his transferring the higher psychic functions and perception by the senses to the cortex of the brain, to his remarkable and correct localization of the motory centres in the cortex cerebri, further to the relations between the corpora quadrigemina and the movement of the eyes, etc. Moreover, signs are not wanting that in the near future Swedenborg's theories concerning the chemical activity of certain organs of the brain, which formerly appeared unintelligible, will at least be partially justified. That is the case with regard to the pituitary body, the affections of which, as recent clinical experience shows, produce so-called acromegalia, a disease distinguished by a considerable enlargement of the face, hands and feet, a thickening of the skin, excessive deposit of fat, alterations in the constitution of the blood, disturbances of the central motor system, of the circulatory and respiratory organs, of the sexual functions; in a word, it is distinguished by general anomalous change of matter, dystrophy.

Worthy of note is the pituitary body, which Swedenborg calls the arch-gland, complement and crown of the organs of the "chemical laboratory of the brain"; and he calls it so, chiefly because it "imparts to the blood a special quality, upon which quality, compared with its quantity, depends the life of the whole of its kingdom." The results of experiments on animals in regard to the functions of the pituitary gland are somewhat contradictory, it is true; but now we can draw from them the conclusion that that organ produces certain substances and passes them into the blood, those substances being of great importance for metabolism.

So fascinating is the impression made upon everybody acquainted with the subject by Swedenborg's achievements regarding the physiology of the brain, that it has mostly not been noticed that this same sagacious philosopher understood also the construction and the function of the spinal cord much better than did his contemporaries; as also that he intuitively perceived many things that later on became the common property of science.

But before entering on that subject, I should like to remind my hearers that, as far as our present knowledge goes, the spinal cord must be understood to be not merely a conducting organ, but also an independent centre that is able to perform manifold functions, and which is the less subject to the exciting and retarding influence of the brain the lower in the scale of animal life we descend. This is shown, on the one hand, by investigations in comparative anatomy regarding the relative sizes of the brain and the spinal cord, and the relation of the cerebral elements in the medulla. It is proved, on the other hand, by experiments on animals which, after decapitation or the isolation of the spinal cord, often execute very complicated movements, such as running, jumping and swimming. These combined movements, which are acquired philogenetically, and then become automatic, make the intuitive motions of very young animals possible.

The human species has to learn most movements; but it is given to the individual constantly to create new motory combinations, owing to the incomparable preponderance of his cerebrum. But the more they are practised the more they become automatic, needing only a first impulse from the will, and then subsequently they proceed merely from the activity of the subcortical centres, the medullæ oblongata and spinalis, without the attention participating, as can be observed in the case of an experienced pianist.

The comprehension of these things has matured very slowly, and although as long ago as the middle of the eighteenth century, Whytt described the complicated reflex movements of decapitated animals, yet it was not till the second half of last century that it was recognized that the spinal cord possesses more or less independence. Of decisive importance was the fact, understood but late, that the fibres of the anterior roots of the nerves proceed from the grey matter of the spinal cord, and that the marrow of the spinal cord includes not only cerebral tracts, but also tracts of its own.

Let us now see what attitude Swedenborg adopted towards the question, and examine first *The Economy of the Animal Kingdom.*

In the chapter entitled "On the Motion of the Adult Heart," he proves, with the help of certain pathological cases of the destruction or defective development of the brain, that under certain circumstances the spinal cord can assume the functions of the higher centres. Further, he points out

that it has been proved by experiments that decapitated reptiles and birds are able to make complicated movements. Nor, finally, does Swedenborg omit to emphasize the fact that the construction of the central nervous system, especially with regard to the brain, shows the greatest difference in the different species of animals.

Tempting though it is to enter into examination of the matter, I will restrict myself to quoting a single passage, which, in surprising harmony with modern views, treats of the conversion of originally voluntary movements of man into automatic ones, thus throwing light on the functional independence of the oblongata and the spinal cord.

Swedenborg speaks of the motions of the cheek, tongue, neck, thorax, arms and feet, which owe their first origin to the will of the cerebrum (particularly in man), and which, by usage, become at length so well disciplined, as to act upon the slightest notice given by any corporeal cause. Further on he continues, "after the habit is acquired, they often return, as is well known, to their functions spontaneously and without the consciousness of the cerebrum. This we see illustrated in the case of the tongue, either while it is performing its masticatory motion with the pharynx or its locutory motion with the larynx, or in the case of the fingers sweeping over the strings of the lyre. When these acquired actions become spontaneous, they recur harmonically even when the cerebrum is almost asleep, or at least when it is unconscious. But who would believe that such a voluntary act becomes by habit natural and spontaneous through the medium of the medulla spinalis and medulla oblongata, and that this voluntary act disposes the nerves of both medullæ into modes of acting accordant with itself. *For the fibre of the cerebrum does not go off into nerves, but traversing the two medullæ, disposes the fibres proper to each; to act in a manner most highly accordant with itself.*" (Part I, § 574.)

Just so in the chapter "on the cortical substance of the brain" Swedenborg says, it is true, that the voluntary movement proceeds from the cortex of the cerebrum, but that the cortical centres act on the muscle not directly, but only by means of the grey substance of the medulla oblongata and spinalis. (Part I, §§ 157, 159, 160, 163.)

The spontaneous course of motions once intended is teleologically justified as follows: Thus although the fibre of the cerebrum does not itself play a motive part in the muscles, yet it does play this in the two medullæ, whose fibres it disposes to act in this and no other manner, as is clearly

deducible from the anatomy of the human brain, of the brains of brutes, and also of insects. And this it does, in order that the voluntary in the cerebrum may pass into the spontaneous and natural by means of the medullæ, lest the cerebrum be carried away into profound particular motions every time an action once begun has to be continued from the ground of habit; in which case it would as often confuse and disturb the administration of its higher offices, as also in man those rational analyses, which demand a particularly quiet state of the cerebrum.

Whoever has made himself acquainted with Swedenborg's wonderful constructive imagination in other departments will not be surprised that his views as to the physiological part played by the spinal cord agree with the results of the latest researches, that they are in harmony with a correct conception of the structure of the organ.

These views must be esteemed the more highly owing to the fact that it was very late before the clue to the intricate fibrous system of the spinal cord was found, and that the beginnings of our present knowledge date only from the first decades of the nineteenth century—nay, that even in the middle of it the greatest mistakes were made in this matter. In this connection I should like to mention that it was not till 1845 that Volkmann opposed the then prevailing belief that all the primitive nerves of the spinal cord run uninterruptedly to the brain; whereas, as I have already remarked, Swedenborg expressly says: "The fibre of the cerebrum does not go off into nerves, but, traversing the two medullæ, disposes the fibres proper to each." In Codex 55 of the Library of the Stockholm Academy of Sciences (a photolithographic reproduction of which was issued by Dr. R. L. Tafel, Stockholm, 1869, Regnum animale V, 1), besides other neurological treatises of Swedenborg's, there is one entitled "De medulla spinali ejus substantiis et principorum nervorum productione." Interesting as is the contents, I will here give only a brief summary of its essentials, as far as it offers an opportunity for comparison with the present position of science.

The spinal cord, on the one hand, serves the brain as a conductor, on the other it acts independently within certain limits. The seat of its activity is formed by the grey mass surrounding the central channel.

The medulla spinalis is divided into segments, corresponding to the single vertebræ; but in man and the higher animals the segments do not possess such functional activity

as they do in worms and insects. The fibres of the spinal cord originate in different places; some in the cerebrum, the cerebellum, and the oblongata, others in the cineritious matter of the medulla spinalis itself.

Those fibres which come from the brain pass through the spinal cord longitudinally, but, on the other hand, the spinal cord's proper fibres intersect it transversely or obliquely. The fibres sent out by the cerebrum run down the anterior parts of the spinal cord, those proceeding from the cerebellum *via* the corpora restiformia run down the posterior parts of the medulla spinalis.

Swedenborg likewise drew a scheme of a transverse section of the spinal cord, attaching, however, only hypothetical value to it. In that transverse section we see the following things: the anterior roots of the spinal nerves receive fibres from the anterior part of the grey matter. The posterior roots, on the other hand, are furnished with fibres from the front and from the back part of the grey matter, but always from the opposite side, so that there is a decussation of fibres.

In this description of the spinal cord those acquainted with the subject will find many a highly ingenious anticipation of results of modern research. Especially interesting are the remarks on the course of the cerebellar fibres, on the fibres proper to the spinal cord itself, on decussation when we consider our present hard-won knowledge of the pyramidal tracts, of the direct cerebellar tract, of the commissuræ dorsalis spinalis, etc.

We must therefore regard it as a most remarkable phenomenon that Swedenborg, without the necessary aids, simply by means of his mental vision, so correctly recognized some of the fundamentals of the tectonics of the spinal cord, a power not given to any of his contemporaries.

Thus also in this department he is proved to have been a Seer.

The Congress then resolved itself into Sub-Sections A and B.

Sub-Section A.

Chairman: Rev. J. R. Rendell, B.A.

SWEDENBORG ON THE CEREBRAL CORTEX AS THE SEAT OF PSYCHICAL ACTIVITY

By Professor O. M. Ramström,

Professor of Anatomy in the University of Upsala.

To every one who has become familiar with Swedenborg's statements regarding the brain, the question has undoubtedly arisen: *Whence did Swedenborg derive all this?* The question has also many times been openly stated, and sometimes received the answer: "We do not know," or "His statements are probably only general suppositions and hypotheses."

These answers, however, are anything but satisfactory in the light of the fact that so many of Swedenborg's statements, one after the other, have been fully confirmed by the thorough investigations and experiments of succeeding times, performed with the help of the most ingenious methods of a highly developed technique.

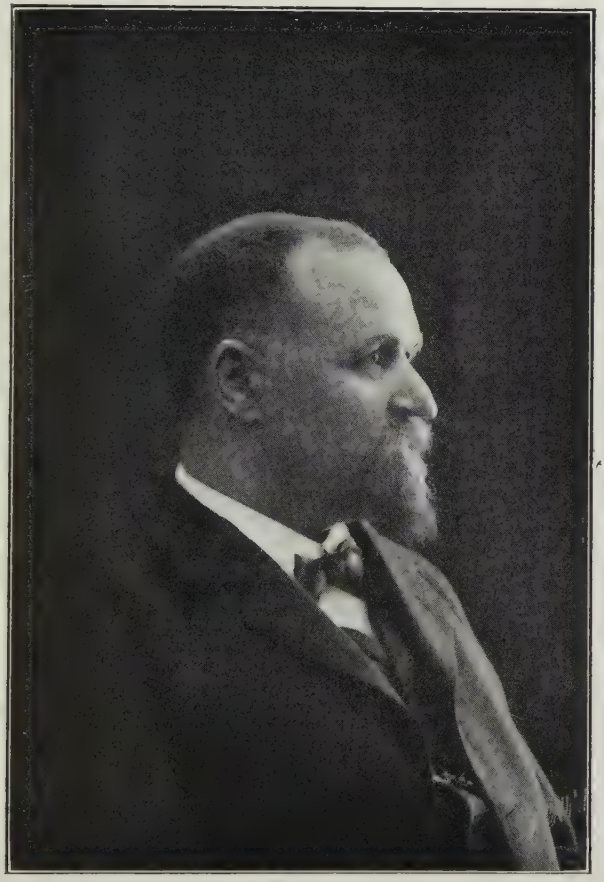
Upon what, then, are Swedenborg's positions based?

If we read Swedenborg's works with this question in mind, we shall find that he himself gives us intimations regarding it in several places.

Swedenborg writes in the introduction to his great anatomical work, *Œconomia Regni Animalis*, as follows, touching the method of investigation there used:—

"Here and there I have taken the liberty to throw in the results of my own experience; but this only sparingly; for on deeply considering the matter, I deemed it best to make use of the facts supplied by others. Indeed, there are some that seem born for experimental observation, and endowed with a sharper insight than others, as if they possessed naturally a finer acumen: such are Eustachius, Ruysch, Leeuwenhoek, Lancisi, etc.

"There are others, again, who enjoy a natural faculty for contemplating facts already discovered, and eliciting their causes. Both are peculiar gifts, and are seldom united in the same person. Besides, I found, when intently occupied in exploring the secrets of the human body, that as soon as I discovered anything that had not been observed before, I began (seduced probably by self-love) to grow blind to the



PROF. O. M. RAMSTRÖM, [p. 56
Professor of Anatomy, Upsala University, Sweden

most acute lucubrations and researches of others, and to originate the whole series of inductive arguments from my particular discovery alone; and consequently to be incapacitated to view and comprehend the idea of universals in individuals and of individuals under universals. . . . I therefore laid aside my instruments, and restraining my desire for making observations, determined rather to rely on the researches of others than to trust to my own."

In the writings of certain authors who have carefully studied Swedenborg's works and brought forward the results of his investigations, there are also found indications of where we are to seek for the grounds for his remarkable statements.

Thus, for instance, Professor Max Neuburger of Vienna says concerning Swedenborg, in his lecture before the Congress of Scientists and Physicians in Hamburg, 1901, about as follows: "Well may we conjure up his great figure from the gloom as a striking example of how, at times, a gifted, speculatively endowed theorizer may, *from neglected, empirical material, draw conclusions which reach to the very heart of the subject*, and penetrate much deeper into its nature than do the soulless deductions of the correct representatives of the 'exact sciences.'" And Professor Neuburger also emphasizes, partly in agreement with Dr. J. J. Garth Wilkinson and the Rev. Dr. Rudolph Tafel, that Swedenborg's great anatomical and physiological knowledge, as well as his acquaintance with a number of animal experiments and pathological observations, etc., have lain at the bottom of his comprehensive and profound speculations and "rational inductions" by means of which Swedenborg's doctrines have been most immediately produced. Professor Gustaf Retzius of Stockholm, in his address as President of the Congress of Anatomists at Heidelberg, 1903, has expressed himself in like manner, and even emphasized, among other things, the important stages of development in Swedenborg's investigations, as also his *great penetration, both as observer and anatomical thinker;* and quite recently Professor Retzius has again emphasized the point that some actual experiments must lie at the root of Swedenborg's detailed and precise statements. In his *Croonian Lecture*, in London, 1908, speaking of Swedenborg's doctrine of localization, he says:—

"These theses are drawn up with such precision by Swedenborg that they . . . must rest upon a real grasp of natural phenomena, as well as on actual experiments and dissecting work."

In consequence of the above statements, I have undertaken an investigation of the literature which Swedenborg

had at his disposal, to find out if possible *what the experience was which served as the basis for his statements and conclusions*, and made it the special object of my quest to try to find out how *his detailed doctrine of localizations* had its rise.

In this investigation the work has been greatly facilitated by the valuable translations into English of Swedenborg's various anatomical works, which have been made by Dr. James John Garth Wilkinson and the Rev. Augustus Clissold, M.A., and by the Rev. Dr. Rudolph Tafel, which translations they have amplified in many places with copious quotations, annotations, and discussions.

The instructive utterances and opinions regarding Swedenborg and his method of investigations, which Professor Anders Retzius of Stockholm as early as 1845, and afterwards Professor Gustaf Retzius have expressed on repeated occasions, have also been of great value to me in my investigations.

The enthusiastic descriptions of Swedenborg and his general conclusions, which have been given by Professor Max Neuburger, and which, as to a large portion, have been translated into Swedish and further enlarged by Professor C. G. Santesson, Stockholm, have also been of service.

I have besides this often had the pleasure of receiving important information from the distinguished Swedenborg investigator, Mr. Alfred Stroh, who with his wide professional knowledge and lively interest in the research in question, has strongly supported the same.

I also desire to acknowledge the interest and sympathetic labour bestowed by Miss Cyriel Odhner upon the work of translating from the Swedish this and two other papers recording my investigations concerning Swedenborg.

From all these various quarters I have collected my facts and data respecting Swedenborg's doctrine concerning the function of the cortex of the brain, and sought to form from them an image as harmonious as possible. And in order to leave the portrayal unhampered, in what follows I shall not always refer to those to whom the honour of priority in the respective statements and opinions is due, a thing which, besides, is often very difficult to decide. In most cases, however, the sources have been quoted and indicated.

In the preparation of the present paper I have been obliged—on account of the limited time—to make considerable omissions and to condense my remarks; wherefore this paper can in no wise lay claim to completeness. But I may mention, for the benefit of those who desire to

study this question more closely, that this autumn a fuller account will, through the kindness of Mr. Stroh, be printed in an English translation in the series, *Emanuel Swedenborg as a Scientist*, now being published at Stockholm.

As is well known, Swedenborg, by his investigations, obtained an insight into the fact that *it is the surface of the cerebrum, the grey cortex of the brain, which serves as the material basis of psychical phenomena*, not only for conscious perceptions but for voluntary impulses to motion. So far I have not found a single investigator before Swedenborg who had been able to obtain a clear view concerning this question. All had been held captive by the notion that the grey cortical layer of the brain was only a gland which generated "spiritus animalis," the spirit of life, or the nervous juice, which makes possible the operation of the brain and the nerves. Swedenborg was the first to understand the true importance of the cerebral cortex, and he gained this knowledge by making several sharp-sighted conclusions, whereof the following seem most convincing.

During his diligent studies, Swedenborg had found, especially from the writings of Dr. Wepfer and the Italian physician Pacchioni (d. 1726), a great many descriptions of diseases of the brain and injuries of the head, affecting the cerebral cortex; and the symptoms of disturbances in the powers of sensation and motion, referred to in these descriptions, Swedenborg connected with the above-mentioned injuries of the cortex. He thus came to the correct conclusion that the loss of sensibility and motility depended upon the injuries of the cortex, and that the cortex was the seat of the soul's activity. Some of these clinical cases may here be brought forward, for the most part as Swedenborg himself has related them:—

A female seventy years of age, who, after exhibiting the premonitory symptoms of apoplexy for some months, suddenly lost the power of speech, and on being conveyed to bed, lost all sensation and motion. On a post-mortem examination *a large cavity was found in the cortical substance of her brain.* The case was taken from Wepfer's *Historiæ Apoplecticorum*, Amsterdam, 1681, pp. 5–11. (*Œc. R. A.*, II, 154.)

A case from Pacchioni was as follows: A young man had died under symptoms of fever, severe headache and spasms or cramp. On opening his cranium it appeared that the dura mater was loosened from the bone at the top of the head: and here, according to the description, it had exercised a strong pressure upon the underlying portion

of the brain, and adhered tightly to the cortical surface. (*Œc. R. A.*, II, 154.)

And another case from Pacchioni, which was still more convincing: A youth was brought into the hospital in an almost unconscious condition, spoke incoherently, threw his arms and legs about in all directions, etc., and furthermore—his lips were somewhat drawn over to the left side; thus a right-sided facial paralysis. On examination after death no injuries could be found upon the integuments of the head or upon the outer or inner sides of the cranium; but on the left side of the brain *a depression of the cortex* was discovered, *occasioned by the formation of a cyst or "bladder" on that part of the surrounding dura mater, lying just over the place of depression* ("Ibi depressus et durioris consistentiæ cortex cerebri cavernam ostendebat vesicæ congruentem"). (A. Pacchioni, *Opera*, ed. quarta, Romæ, 1741, p. 112, and *Œc. R. A.*, II, 88.)

Swedenborg brought forward still more cases, and he had at hand, as he says, a very great number of "phalanges observationum idem testificantium."

Swedenborg had made *a very careful study of a great many cases of apoplexy and hemiplegy*, which naturally, inasmuch as they affected the cortex, gave him direct guidance for judging of its function. And he understood very well how to judge at the same time as to the importance of the bleedings in the pia mater around and between the convolutions of the brain and the pressure that these exercise upon the cortex, and the result of obstructed circulation in cases of apoplexy. For in all these cases, he says, the transmission of blood to the cortex is checked, and by this the latter is disturbed in its functions; and this is the cause of the loss of sensibility and motility. (*Œc. R. A.*, III, 411, 413; *Brain*, No. 89.)

He was led to the same conclusion by some other discoveries which he made during his studies, namely, by the results of some experiments on animals, which had been performed and described by the English anatomist and physician, Henry Ridley, and the Italian professor, Baglivi, and others. They by no means made these experiments in order to find out the function of the cerebral cortex (for this, as was said, was thought to be a gland); but for other purposes, namely, in order to find out the causes of the brain's pulsations, or the properties and functions of the membranes of the brain, etc. But when they happened to touch and injure the cerebral cortex, there appeared

symptoms of contractions of muscles, etc., which the observers themselves had described only, as it were, in passing, but which Swedenborg understood how to connect with the cortical lesions. And thus he came into possession of a much stronger support for the idea that psychical phenomena have their seat in the cerebral cortex.

But besides these clinical and experimental observations, *his intimate knowledge of the structure of the brain* also contributed in leading him to the same view. Through the investigations of Leeuwenhoek, Malpighi, Ruysch and others, he knew that the cortical substance consisted chiefly of small bladder-like bodies, which, closely surrounded by bloodvessels, put forth processes like threads or vessels into the central portion of the cerebrum, the white medullary substance of the brain. And he also knew, through the works of preceding authors, that this medullary substance was for the most part composed of fibres, which (by means of the nerves) were in connection with both the sense-organs and muscles.

From these writings, however, he could not derive information as to whether the nerves by means of the fibres of the medullary substance actually stood in continuous connection with the bladder-like cortical elements and their processes. But as he had previously acquired an insight into the real importance of the cortex for the operation of the soul, he now took a step forward and assumed the existence of a connection of this sort. "These effects" (conscious perceptions, etc.), he says, "could never be produced . . . unless there were a mutual connection and perpetual communication of the cortical substance with the medullary, as regards the fibrils . . ." (see *Œc. R. A.*, II, 193). And as to the connection of the motor nerves with the cortical elements, he reasons in another place about as follows: If we view the cortical substance under the microscope, it is clearly seen how the nerve-threads spring forth from it like streams from their fountains. And this is also confirmed by various diseases of the brain; if the cortical substance has been injured, as autopsy may convince us, the injury spreads itself through the fibrils connected with the cortical elements to the muscles, and thus there are caused disturbances in the power of movement. (*Œc. R. A.*, III, 127.)

In assuming such a relationship Swedenborg succeeded in finding an explanation of the connection between the clinical symptoms and the injuries of the cortical substance mentioned above. And this gave further support to his opinion that it

is in the cerebral cortex that the sense-impressions become conscious, and in the cerebral cortex that the impulses to voluntary motion come into being.

But Swedenborg did not stop here. The goal of his investigation was to find the soul, and therefore he continued his researches and conclusions. He had himself found that the psychical phenomena took place in the cerebral cortex; and he knew from preceding authors that the cortex, as to its greater part, consisted of small cortical elements, closely surrounded by bloodvessels, and that it was in these elements that the nervous fluid, the "spiritus animalis," was generated, which, borne through the nerves, provided for the activity of the nervous system.

From this he now draws his second important conclusion, namely, that *it is in the small cortical elements that the psychical activity actually has its seat.* For these small elements, he says, hang at the ends of the nerves; and if, following up the nerves into the brain, one continued beyond the cortical elements, one would come out of the actual psychical centre into more peripheral parts, to the membranes of the brain, etc. It must, therefore, be in the cortical elements that the soul receives the sense-impressions, works them up into ideas, makes her judgments and comes to her decisions, and it is from them that the soul sends out her commands. (*Œc. R. A.*, II, 191 *et seq.*) And what part of the cerebral cortex was better fitted to perform the necessary and ever-shifting mission of the soul than the cortical elements, the cerebellula, to which the life-giving powers of the blood had such direct admission, and in which that highly subtle nervous fluid seemed to come into being, whose office it was to communicate the changing utterances of the soul's life.

In this conclusion, Swedenborg has in reality arrived at our modern conception of the activity of the brain. For the small cortical elements, which he called "sphærulæ" or "cerebellula," are identical with what we now call the nerve-cells of the brain: and Swedenborg therefore, in reality, in this conclusion of his, declared that the activity of the brain is the combined activity of its cells.

But not even here did Swedenborg stop. The cerebral cortex, and all its cerebellula, indeed formed a whole, which transformed the sensory impressions into thoughts and decisions: but all the regions of the cortex were not of equal value. Some regions governed the higher, others the lower functions: some received the sensory impressions and others

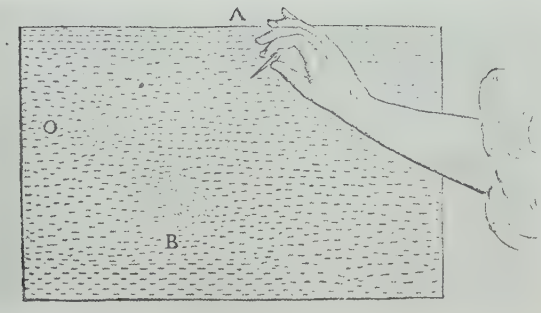


Fig. 1.—CENTRAL CAVITY OF THE BRAIN

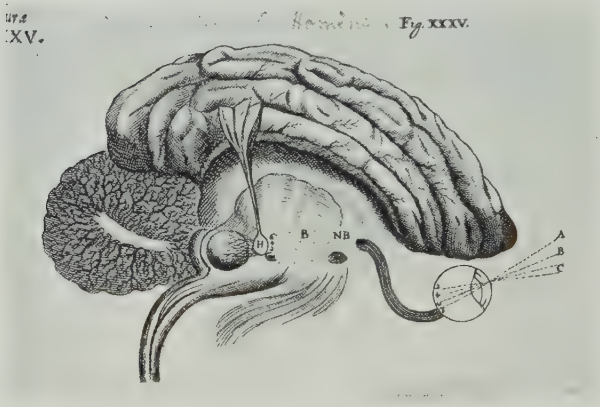


Fig. 2.—FIBRES OF OPTIC NERVE

[p. 63

sent out the different kinds of motor impulses: that is, *the different departments of the psychical activity were localized in different places in the cerebral cortex.*

This thought of localization appears to us at first glance as exceedingly modern, but in reality it was in Swedenborg's time not so entirely new. Swedenborg's contemporary Boerhaave (d. 1738) thought that in the same way that every sense has its own external sense-organ, so there were regions in the brain separated in situation according to the different senses. And before Boerhaave, the philosopher Descartes (d. 1650) had already expressed a similar idea of localization, but even more detailed. For he thought that the images of perception, memory, etc., which the soul conceives, are formed on these places of the inner wall of the central ventricle of the brain, from which, according to his opinion, the respective nerves proceed.

Demonstration of Lantern Slides.

In order to illustrate this opinion of Descartes, I am now about to show some lantern slides, copied from the treatise of Descartes, "De Homine" (Concerning Man).

The first illustration represents the inside of the wall of the central cavity of the brain. Here a great many points are to be seen, some of them forming images, for instance, of a star or a lily. The points are the openings of the nerves, which, Descartes thought, took their origins from the wall of the central cavity or ventricle of the brain. And the nerves he thought to be hollow tubes, through which the "spiritus animalis," the nervous juice, could stream from the central cavity of the brain to the different parts of the body where the nerves are distributed.

Picture No 2 illustrates this idea of Descartes. .'. On the inside of the central cavity of the cerebrum there are seen a great many points, *i.e.* the openings of the nerve-tubes; but among them there are seen also the fibres of the *optic nerve.*

Now, further, Descartes had the opinion that the "spiritus animalis" streamed through the nerves when their endings were touched or irritated by anything. By the streaming of "spiritus animalis" the openings were widened. And as these fibres formed a kind of bundle in the nerve, likewise the opening of the fibres formed a kind of group or image on the inside of the wall of the central ventricle of the brain. And this is the most interesting part, these images were to be viewed—by the soul! which, according to Descartes, dwelt

in that little round body in front of the cerebellum which is called *corpus pineale*. A striking picture of this operation is given in figs. 3 and 4; the former shows the image of a church at the back of an eye, and this image irritates the group of nerve-endings comprised within the contours of the image; and this group of nerves forms a similar group of openings on the ventricle-wall, which the soul is able to view. No. 4 shows the same: an object gives an image at the bottom of an eye; this image causes an image (of openings) on the ventricle-wall, which the soul is viewing. In a similar way the other sensations are produced, of which fig. 5 gives a very manifest representation. The fire at the foot excites the nerve-endings of a toe, the stream of "spiritus animalis" widens the tubes of a certain group of nerves, the openings of which the soul is perceiving and feeling.

Thus, according to the opinion of Descartes, the images of perception and, if often repeated, the images of memory, were localized in the central cavity of the brain, the "third ventricle," into which consequently the activity of the soul came into being.

This was the attempt of Descartes to localize the soul's activity.

But now we shall see how Swedenborg solved the problem!

And in order to facilitate the understanding of what follows, I shall now throw on the screen some lantern views to illustrate what follows.

The first illustration (fig. 6) is drawn from an anatomical work, which Swedenborg had at his disposal, namely, "Cerebri anatome," by the Englishman Thomas Willis. Though this work was printed so long ago as 1681, this illustration gives a very good and nearly correct view of the under-side of the brain, the cerebellum, medulla oblongata, and the beginning of the spinal marrow, and at the same time their nerves and vessels. Also it may be seen that the cerebrum is divided by a deep furrow, named the "Fissure of Sylvius," into two sections: one the *anterior region*, and the second, the *posterior* one.

The second illustration (fig. 7), taken from an anatomical atlas of our time, the Atlas of C. Tolot, shows us the left side of the surface of the brain. Here we find again the "Fissure of Sylvius," dividing the hemisphere of the cerebrum in the *anterior* (or superior) *region*, and the *posterior* (or inferior) one. Also the cerebellum, medulla oblongata, and the spinal marrow are shown.

The next illustration (fig. 8) is also taken from the same

Fig. 3.—FORMATION OF IMAGE ON THE RETINA

Fig. 4.—FORMATION OF IMAGE ON THE RETINA

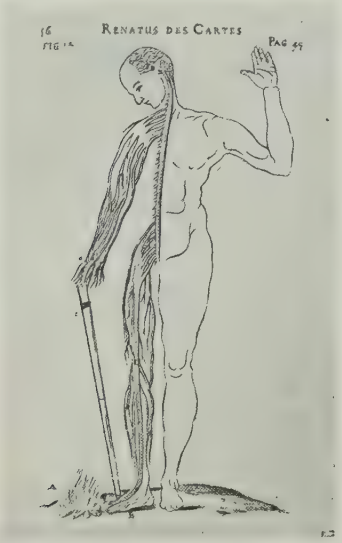


Fig. 5.—PRODUCTION OF SENSATION IN THE SOUL [p. 64

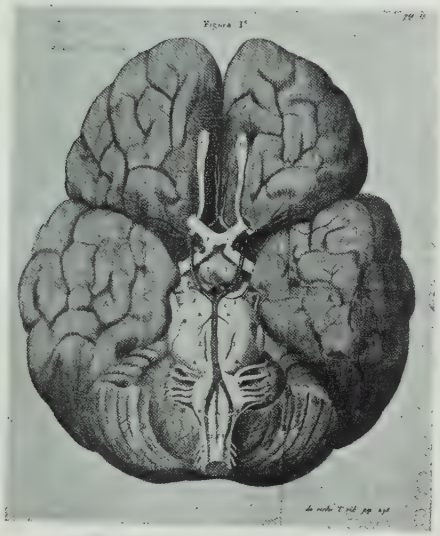


Fig. 6.—UNDER-SIDE OF BRAIN BY WILLIS, 1681.

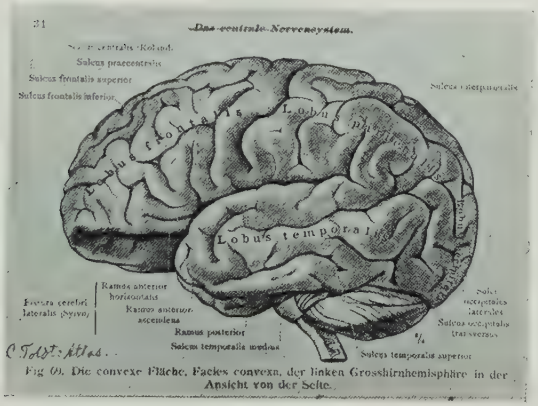


Fig. 69. Die convexe Fläche. Facies convexa, der linken Grosshirnhemisphäre in der Ansicht von der Seite.

Fig. 7.—LEFT SIDE OF BRAIN SURFACE, ATLAS OF TOLOT [*p.* 64

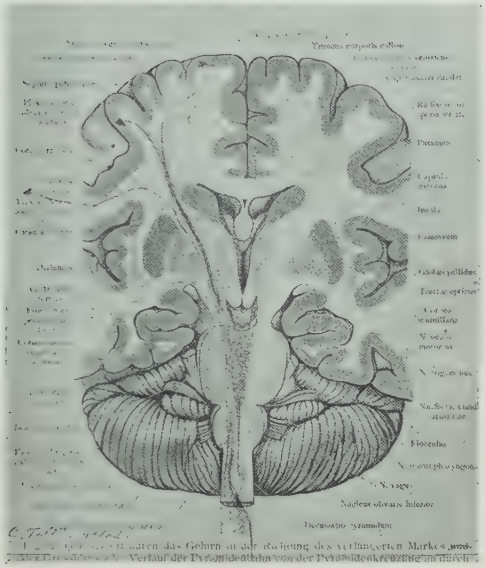


Fig. 8.—STRUCTURE OF INTERIOR OF BRAIN, ATLAS OF TOLOT

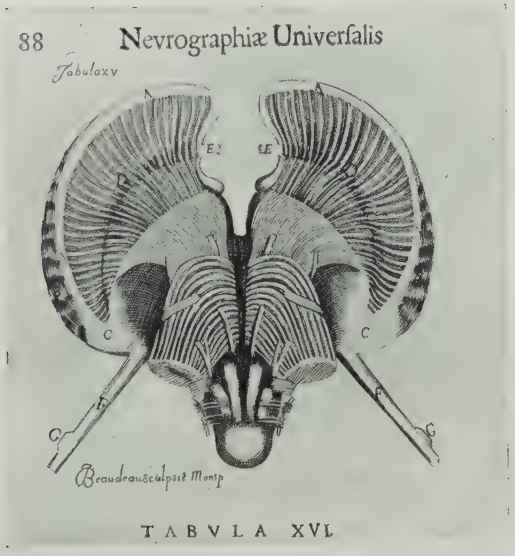


Fig. 9.—FIBRES OF MEDULLARY SUBSTANCE [p. 64

Fig. 10.—MIDDLE PORTION OF MEDULLARY SUBSTANCE [*p.* 65

Atlas; it shows us the structure of the interior of the brain. We must imagine an incision to be made from one side of the brain to the other through the spinal marrow, medulla oblongata, and as far as the brain, and that the fore part of the brain is removed.

Now (fig. 8) we see the interior of the brain, medulla oblongata, and the beginning of the spinal marrow viewed from the front. The interior white mass, that is, the white medullary substance, is enclosed by a superficial layer of a grey mass, that is, the cortical substance of the brain, *cortex cerebri*. And in the midst of the white medullary substance a group of greyish bodies are seen. The middle ones are oval in form, the lateral triangular. This group is named *corpora striata*, and in what follows you will hear that Swedenborg attached a very great importance to them in his doctrine of localizations.

As we see, a great many white tracts pass midway between the grey bodies of the *corpora striata* and radiate towards the surface of the brain: one part directly upwards; a second part upwards and outwards; a third part directly upwards. These radiating medullary tracts had been described in detail by Vieussens, a French anatomist, a little before the time of Swedenborg; and Vieussens subjoined to his work some illustrations several of which are of very special interest as regards the doctrine of localizations.

For instance, fig. 9 shows the distribution of the lower portion of the fibres of the medullary substance of the brain, on the one side towards the cerebral surface, on the other to the medulla oblongata and its nerves; and fig. 10 shows how the group of medullary fibres next above the former, *i. e.* the middle portion of the medullary substance, is distributed, on the one side towards the surface of the brain, on the other side forming thick tracts down to the anterior part of the spinal cord, where they come into connection with the anterior, the beginnings, of the spinal nerves.

Thus the actual idea of localization was not entirely new, but what was new was the idea of referring the psychical functions to the cortex, and Swedenborg solved the question thus. *The most important part of the cerebral cortex, where the psychical phenomena actually take place, was the anterior* (superior) *region of the cerebrum*, that which we now call the frontal and parietal lobes. "From this anterior province," he says, "proceed all the fibres of the cerebrum, which . . . enter the kingdom of the body." "*All the sensations affect chiefly the anterior province of the cerebrum, and the voluntary*

conatus or efforts proceed thence." "And therefore," he adds, "if this portion of the cerebrum is wounded, then the internal senses—imagination, memory, thought—suffer; the very will is weakened, and the power of determination blunted. . . . This is not the case if the injury is in the back part of the cerebrum." (*Brain*, No. 88.)

Swedenborg had several reasons for this localization of the psychical activity, and of these the most convincing are the *clinical results*, which he summed up in the quotation just made. Indeed, if we examine the original descriptions in the literature which Swedenborg had at hand, we find there very good premises for such a conclusion.

For example, the above-cited case from Wepfer, the female seventy years of age, who suddenly lost the power of speech: it is there related that she had been struck with a left-sided paralysis, and that the injury in her cerebral cortex, the large cavity, filled with blood, had its situation in the right *hemisphere of her brain just behind the frontal region* ("ad frontem fere antrorsum"), and had an extension of eight uncias in length and four uncias in breadth. (See J. J. Wepfer, *Historiæ Apoplecticorum*. Amsterdam, 1681, pp. 5–11.) And all this seems quite evidently to indicate a situation in the *anterior* region of the brain.

And on examining the case from Pacchioni, the right-sided facial paralysis, we find that the whole side of the patient's body was somewhat paralysed, and that the cyst-formation in the dura mater, which occasioned the depression of the cerebral cortex, had been lying just over the left *hemisphere of his brain and reached from the crown of his head down to the temporal region* ("a capitis vertice in temporalem regionem"). (See A. Pacchioni, *Opera*, ed. quarta, Romæ, 1741, p. 112.) Thus the situation of the lesion evidently was in the anterior region! And all such cases furnished direct hints as to the position of the motor centres in the above-mentioned *anterior* (superior) region of the brain.

But Swedenborg had also other reasons which seem to have been very weighty for him, and first among them was *the close connection of the above-mentioned region with the "corpora striata,"* as they are called. This group of nuclei, which lies in the medullary portion of the brain, just beneath the region mentioned, had been the object of special interest for preceding authors.

For instance, the Englishman, Thomas Willis, in his *Cerebri anatome* (1667), had described them as a kind of junction, "internodes, by which the cerebrum coheres with the medulla

oblongata"; and he had given special attention to them on account of their peculiar structure (see *Brain*, No. 476), and he is said even to have attributed to them the "sens commun." (See Winslow, *Exposition anatomique*. Amsterdam, 1732, IV, p. 210.)

And the Professor at Montpellier, R. Vieussens, had given a very full description of them, as also of the mighty tracts of nerve-fibres (the capsula interna), that pass through them and which on the one side are distributed into the different parts of the brain, and on the other, through the nerves, to the different parts of the body.

Swedenborg had all these writings at his disposal, and probably in consequence of these descriptions, Swedenborg attached a very great importance to the corpora striata. He says: "The royal road of the sensations of the body to the soul . . . is through the corpora striata," and "all determinations of the will also descend by that road." "It is," he says, in his figurative way, "the Mercury of the Olympus; it announces to the soul what is happening to the body, and it bears the mandates of the soul to the body." (See *Brain*, No. 67.) And as the corpora striata lie immediately under the anterior (superior) region of the brain, are "most immediately subject to the courts" of the anterior region and "communicate therewith," etc., therefore "all sensations arrive for the most part at the anterior region of the cerebrum, and the voluntary impulses likewise emanate from this."

These were the anatomical considerations which together with the clinical experiences formed the basis of Swedenborg's localization of the psychical activity in the anterior (superior) region of the cerebrum.

But Swedenborg succeeded in carrying out the localization within the region in question still more in detail, and his doctrine of localization, word for word, reads as follows:—

"*The muscles and actions which are in the ultimates of the body, or the soles of the feet, depend more immediately upon the highest parts* (of the brain); *upon the middle lobe, the muscles which belong to the abdomen and thorax; and upon the third lobe, those which belong to the face and head.*" (*Brain*, No. 68.)

By the three lobes he meant the three sections into which he divided the anterior superior region of the brain, and of which the first lobe was situated highest up in the crown of the head, and the third lobe lowest down, along the so-called fissure of Sylvius.

Keeping this in mind it will be seen that Swedenborg's

doctrine of localizations coincides in its leading features with the doctrine of localizations into which our own times have succeeded in obtaining an insight, after the most comprehensive and complicated work, during the last half-century. It therefore seems very puzzling that Swedenborg a century and a half ago, could advance this doctrine. But if we continue the study of the aforesaid presentation of Vieussens in his *Neurographia Universalis,* we find the solution of the puzzle.

Vieussens followed the mighty nerve-tracts which passed through the corpora striata and capsula interna both up towards the hemispheres of the brain and down towards the spinal cord. When he followed them upwards, he found that they formed *three regions in the white medullary portion of the brain,* centrum ovale: the regio superna, highest up nearest the crown of the head; the regio media, below the latter; and the regio infima, farthest down, thus nearest the fissure of Sylvius: and Vieussens thought that it was in these regions of the cerebral medulla, especially the highest one, that the seat of psychical activity lay.

But Swedenborg, who had reached the conclusion that the psychical functions occur in the *cerebral cortex,* and that the fibres of Vieussens' regions were the continuations of the nerve-processes of the cortical elements, only needed to extend the regions of Vieussens along the nerve-fibres to those regions of the cortex which correspond to them. And now Swedenborg has his three cortical lobes.

When Vieussens followed the tracts of nerve-fibres of the corpora striata downwards, he found that the fibres of the *highest* region continued down into the *posterior* region of the spinal cord; that the fibres of the *middle* region continue in thick tracts through the Pons Varolii down to the *anterior part of the spinal cord, where they come into connection with the anterior origin of the spinal nerves;* and that the fibres of the *lowest* region distributed themselves into the nerves which proceed from the *medulla oblongata, and some of the anterior origins of the spinal nerves.*

On the basis of these facts Swedenborg could now construct his doctrine of localizations.

For since it was well known that the muscles of the head and face are supplied by the nerves of the medulla oblongata and some of the spinal nerves of the neck; and Vieussens had shown how these nerves were connected with the lowest region of the brain, Swedenborg could with complete justice draw the conclusion, "*The muscles and*

actions of the face and the head depend more immediately upon the lowest or third lobe."

And since it was well known that the muscles of the thorax and abdomen derive their nerves from origins in the anterior part of the spinal cord, and Vieussens had shown the connection of these origins with the middle region of the medulla of the brain, then Swedenborg had also the right to draw the conclusion, "*The muscles and actions of the thorax and abdomen depend more immediately upon the middle lobe.*"

But there still remained the highest lobe of the brain, and the lowest part of the body. As to these, Vieussens had shown that the fibres of the *regio superna* continued down into the *posterior region of the spinal cord;* but here he gives no indication whatever *where* the boundary of the distribution of the nerves of the aforesaid region might be considered to be. And therefore Swedenborg also expressed this part of his doctrine of localizations in the following very general way: "*The muscles and actions in the lowest parts of the body, or the soles of the feet, depend more immediately upon the highest parts* (of the brain)," and he adds as a general conclusion, "For they (*i. e.* the muscles of the body and the lobes of the brain) seem to correspond to one another in inverse order."

Now Swedenborg has his doctrine of localizations complete. And herewith he puts the crown on his work. The *cerebral cortex*, and, more definitely, the *cortical elements* (nerve-cells) *form the seat for the activity of the soul, and are ordered into departments according to the various functions.*

In this our examination we have thus seen that it is possible to follow Swedenborg's tracks through the folios of the old authors, and to find the places from which he derived the material for the edifice of his doctrine.

But this material which Swedenborg drew from the above-mentioned literature for his doctrine did not, by any means, lie clearly in the light of day, so that he needed only to collect together the facts presented and put them together. No, these facts had often been presented merely as unimportant side issues, only mentioned in passing. And he who knows how the literature of that day abounds in curious ideas and bizarre mistakes, must greatly admire Swedenborg's penetration in being able to find, in this maze, the threads of truth.

But Swedenborg was not satisfied in merely making such a

critical gleaning. He afterwards worked over his collected material with such deep speculation, comparison, analysis and synthesis, that he thereby obtained a living view of the inmost conception and reciprocal activity in the different components of the parts of the brain.

His statements respecting the brain were thus in no wise loose suppositions and hypotheses; but they were well grounded on careful studies and observations and discriminating conclusions. The character of Swedenborg's investigations has been admirably and concisely delineated by Professor G. Retzius of Stockholm, in his speech as President of the Congress of Anatomists at Heidelberg, 1903, in which Swedenborg is thus described:—

"Swedenborg was not only a learned anatomist and a sharp-sighted observer, but also in many respects an unprejudiced, acute, and deep anatomical *thinker*."

And in this, it seems to me, lies the secret.

Careful scientists had, each in his own field, made researches and discoveries worthy of recognition. Swedenborg understood how to discriminatingly work over these fields as no other man, all these anatomical, physiological, experimental, clinical, and pathological facts, and to put them together with such ingenuity that he unveiled the essential parts of that complicated system which forms the basis of the multifarious expressions and ever-shifting utterances of the soul's life.

SWEDENBORG AS COSMOLOGIST

By Rev. Professor Tansley, B.A., New Church College, London.

The purpose of this paper is, in the first place, to examine and discuss Swedenborg's views on creation, and, secondly, to consider his claim to priority in regard to the nebular theory. In dealing with the first point it is necessary briefly to review previous speculation on the question of origins. Speculation on the origin of the world was a feature of early philosophic thinking amongst the Greeks. The earliest Ionic philosophers, from Thales to Anaximander, contented themselves with endeavouring to find a reason for the phenomena of the world; they formed no theory as to the

origin of things in their totality. Anaximander, about 600 B.C., was the first to postulate an infinite substance or ἀρχή as the primal material or background of the kaleidoscopic phenomena of nature. This principle lacked the essential element of a moving, originating cause of things. Anaxagoras introduced later the idea of an active cause or νοῦς, which seems to imply the conception of a world-ordering intelligence. Here, then, we have the dim recognition of mind plus pre-existent material. Plato, while elaborating this notion in his theory of ideas, goes practically no farther than Anaxagoras. His ὕλη is simply a plastic material out of which things are framed by a τεχνίτης or infinite workman. Lucretius, several centuries later, worked over the speculations of Democritus, and laid the foundation of the atomic theory which, with modifications, held the field until recent times. Newton expressed his view in terms similar to those of Lucretius, while Tyndall, as late as 1874, departed hardly at all from the ancient view of the constitution of matter. Recent discoveries, and speculations thereon, have introduced an entirely new conception; and the atomic theory of two or three decades ago may be said to have departed into the region of archæological physics.

But whether the old atomic theory or the modern electric hypothesis of the constitution of matter be accepted, the question of origins still presses upon the thinker. The mind instinctively seeks for a cause; the postulate of a pre-existent matter explains nothing.

Now the early physicists found it necessary to bring in the conception of movement to explain phenomena. Heraclitus, about the fifth century B.C., perceived that things about him were in a state of flux. "You cannot go down into the same river twice," he used to say, and this conception of motion as a prime factor in phenomena has maintained itself all along the evolution of physics, and is now the basis upon which rests all modern theories. Swedenborg, who published his *Principia* in 1734, one hundred and seventy-six years ago, while regarding the "Universe as a grand piece of mechanism;" to use his own words, conceives motion to be the immanent principle in this mechanism, as the following quotation shows:—

"Whatever is devoid of motion remains such as it is: whatever is at rest produces nothing: without motion or change of place, or more generally, without a change of state, no new existence, no product can be conceived: that

is, nothing is capable of existence or change except by motion."[1]

This idea was not, however, original to Swedenborg; he elaborated and applied it in a new way. Not to trace back the principle to later times, we may note that Descartes, previous to Swedenborg, maintained that "All variations of matter, or all diversity of power, depend on motion." Thomas Hobbes, the philosopher, in 1678, said, "Change is of necessity nothing else but the motion of the parts of the body changed."[2] Leibnitz held the same view, while Musschenbroek, whose experiments on the magnet Swedenborg quotes *in extenso*, says, "No change is induced in bodies whose cause is not motion."[3]

Swedenborg, then, worked over a principle already accepted as the basis of physics, perceiving the fundamental importance of motion, and applying it in a way attempted by no other thinker, either previous to, or contemporary with him. He was fully acquainted with the philosophy of Descartes, as it had taken footing in his own university; but there is little resemblance between the principles of René Descartes and those of Swedenborg on the constitution of matter. The particles of the former have no resemblance to the finites of the latter. Neither does Swedenborg owe anything to the monads of Leibnitz. There are one or two resemblances in detail, but nothing more.

The constitution of matter is, of course, closely associated with cosmology, or the origin of world-systems, and a careful comparison of cosmological theories convinces me that Swedenborg occupies a unique position as a cosmological philosopher. Now, every system, from the most ancient to the most recent times, starts with pre-existent matter. "It is the fundamental principle," said the late Prof. Newcomb, "of the theory of Evolution, as developed by its greatest recent exponent, that matter itself is eternal." If matter is eternal, then there is no question of origin at all. But the mind refuses to rest satisfied with a position that contravenes its instinct for cause and effect. What is naturally sought for—a cause behind an effect—in individual instances, the mind looks for in the collective whole of the universe. While it is profoundly difficult to represent to oneself the non-existence of the universe, it is equally difficult to conceive a world without origin.

[1] *Principia*, vol. i, p. 55.
[2] *Philos. prima*, pars secunda, ix. 9.
[3] *Introd. ad philos. naturalem*, vol. i, cap. 1, § 12.

Swedenborg's theory involves difficulties of conception of no mean order, but it implies a *prius*, a definite, definable origin of things. Even the evolutionary theory of Herbert Spencer goes back to "Infinite and eternal energy" as that from which all things proceed. But energy or force is not matter in the old atomic conception of it. It is the *prius* in which all things are assumed to be *in potentia*. If all things have proceeded and do proceed from energy, then the universe is a collective effect of which energy is the particular cause. Force was prior to things, the latter being the manifestation of it. This seems to me to be Spencer's conception when reduced to plain terms.

Now Swedenborg crosses the Rubicon in cosmical philosophy, and traces the origin of things up to the Infinite. He says, "Thus the ultimate course of things begins in the Infinite, what is finite, therefore, takes its origin from a cause, and as a thing limited from what is itself unlimited."[1] And again, "There must be something infinitely intelligent which not only purposes, but also executes its designs; which must be both the power which can create, and the active agent which does create all things that exist." Here you have a postulate in complete line with the modern conception of the intelligibility of the universe.

Swedenborg starts, then, from the Infinite, and derives the finite therefrom by means of what he designates a primitive entity or natural point. This point he likens to the geometrical point, which, although non-spatial, yet in the imagination gives rise to all forms. Some difficulty is found in conceiving this primary point of Swedenborg's theory; and he goes to some trouble to get the reader to see it as he himself doubtless conceived it. In the Infinite everything subsequently existing must be conceived as *in potentia*. The energy of producing was potential, and it became kinetic in this point or ens. He lays great stress on *conatus*, or the effort to produce, which was *in potentia* in the Infinite, and, becoming kinetic, resulted in the created universe. This seems to be analogous to Spencer's "Infinite and eternal energy," which must have been primarily potential before it became kinetic and creative.

I quote here a significant passage from the *Principia* which bears out my contention. "In the producing cause there was something of the will that it should be produced; something of an intelligent nature determining that it should be produced in such a manner and in no other; in a word,

[1] *Principia*, vol. i, p. 46.

something infinitely intelligent, infinitely provident, infinitely active and infinitely productive."[1]

Infinite Will, then, with directive intelligence, is fundamental here. In the human will we may see an analogue of this. The engineer or architect has the will to produce; the engine or building exists *in potentia* and in detail in his mind before it takes form in plastic matter. The engineer, however, is a τεχνίτης, or workman only, working on material at his hand; the Infinite is the originator: the will to produce resulted in this *materia prima.*

Now this point is absolute motion, or, as Swedenborg designates it, pure and total motion, and therefore spatial relations cannot be predicated of it; neither has will any relation to space. This absolute motion of the primary ens must be conceived not as the motion of a thing or entity, but as the Infinite going forth to produce things. This is doubtless a metaphysical conception; but in modern physics you can hardly move a step without entering the territory of metaphysics. The old conception of matter as hard, indivisible, impenetrable particles originally created as such is no longer tenable. Motion is now held as the basis of phenomena, and not necessarily associated with matter as commonly conceived. Swedenborg's handling of the question of origins is bold and unique, and in many respects foreshadowed modern ideas.

Matter can be interpreted only in terms of motion. "The atom of matter," says Prof. Larmor, "is composed of electrons and nothing more."[2] Some scientists regard matter as electrical, or as composed of electric vortices. "The atom," says Gustave Le Bon, "appears more and more to be a sort of sidereal system, having one or more suns and planets rotating round it with immense velocity."[3] And according to Lucien Poincaré, the electron is a modification of the ether systematically distributed round a point.[4] Compare these views with the following from Swedenborg. "In every vorticle round the magnet there are probably minute particles moving round the centre, and revolving round an axis." Swedenborg is evidently up to date. Matter is motion. "Nature," says Swedenborg, "is only a word which expresses all the motive forces proceeding from the first motion of the Infinite till the world is completed."[5]

[1] Vol. i, p. 51.
[2] Le Bon, *Evolution of Matter*, pp. 234-235.
[3] Le Bon, *Evolution of Forces*, pp. 234–235.
[4] *The New Physics*, p. 317.
[5] The *Principia: Means leading to true philosophy.*

This quotation indicates Swedenborg's clear insight into fundamental principles.

If, now, motion is the basis of phenomena, and this motion was *per se* the primary ens or point of Swedenborg, then his notion implies that energy is not something added to matter from without, but is intrinsically in matter, or actually is matter. His *vis agendi*, or energy of motion, is an essential part of matter. The conception of intra-atomic energy which science has only recently adopted was an intrinsic part of Swedenborg's theory a hundred and seventy years ago. This is clear proof of his wonderful deductive insight.

Proceeding now to the further consideration of this primary ens or point, we find that its *vis agendi*, or internal energy derived from the Infinite, causes it as absolute motion—for as yet there are no spatial relations—to go out to the production of something substantial, which our author designates the first finite, and which now sets up spatial relations. The tendency of the absolute motion of the point is into a spiral motion, which he regards as the most perfect and comprehensive of motions. This conception seems to be reappearing in nature under the form of vortices—vortices in the ether, the vortex rings of Lord Kelvin. "The spiral form of structure," says Sir Robert Ball, "is one in which nature seems to delight,"[1] and Gustave Le Bon says, in his *Evolution of Forces*, "Bodies are constituted of a collection of atoms composed of an aggregate of particles probably formed by vortices in the ether."[2]

Now the points themselves give rise to what Swedenborg calls the first finite; and this first finite arising from the point he designates the primary substantial. It has innate motion, and it is the seat of intra-atomic energy. This primary substance, because originating from points, is divisible, and would pass back into points were it resolved. This solves the vexed question under the old atomic doctrine of the divisibility of matter. For, in the final analysis, this *materia prima* is resolvable into points, and the points are absolute motion to which division has no application. With some reservation, I am inclined to consider this *materia prima*—this universe of first finites—as equivalent to the ether as now conceived. Gustave Le Bon says, "If we know very little about the ether, we must, however, consider it certain that the greater part of the phenomena in the universe are the consequences of its manifestations. It is no doubt the first cause and the ultimate end of things, the

[1] *The Earth's Beginnings*, p. 256. [2] Page 79.

substratum of worlds."[1] Further, science has come to the conclusion that the properties of the ether are negative as compared with the properties manifested by matter. It is non-atomic, frictionless, not subject to the law of gravitation. Matter, as we know it, comes from the ether, and by dissociation returns to it. "It does not seem proper to call it matter," says Prof. Dolbear; "we might speak of it as substance."[2] Now Swedenborg, in the *Economy of the Animal Kingdom*, speaks of an aura, by which he seems to mean that which is here the *materia prima*, and says, "The first aura of the world has no inertia, no materiality, so. far as materiality involves weight."[3] And again, "The first aura of the world is not matter; for neither weight nor lightness can be stated of it." This is in line with the modern conceptions of the ether. But if matter is the manifestation of motion or energy, and the ether is force *in potentia*, then we have a triumphant vindication of Swedenborg's insight in the following words from the work I have quoted: "This aura is the very and most perfect force of nature in form. Neither weight nor lightness can be stated of it; but on the contrary, active force, the origin of weight and lightness in terrestrial bodies."[4]

We have this *materia prima*, then, formed of first finites pressing one upon another by contact, each one of which has in itself the energy imparted by the absolute motion of the points. From motion among themselves there now arises by aggregation a second finite. Then out of the free motion of finites among themselves there arises an active. We have then an active and a passive, which would seem to be analogous to negative and positive charges of electricity now playing so important a part in the electron theory of matter. These actives run out into the production of surface and of spatial relations. "A surface," Swedenborg says, "may be represented by motion." It is an established fact that motion imparts rigidity. A spinning top remains upright on a fine point through motion of rotation. A flexible circular chain becomes a rigid wheel by motion. A jet of water moving with high velocity cannot be cut through with a sword. Water falling over a barrier, and forming a thin screen moving with the speed of light, would be impenetrable by a shell from a Dreadnought, while a circular disk made of paper, and making, say, a hundred

[1] *Evolution of Matter*, p. 93.
[2] *Matter, Ether and Motion*, p. 35.
[3] Vol. ii, p. 180.
[4] Vol. ii, p. 35.

Fig. 1.—NEBULA OF ORION [p. 76

Fig. 2.—SPIRAL NEBULA

Fig. 3.—NEBULA OF ANDROMEDA

[p. 77

thousand revolutions per second, were the tension of the paper great enough, would cut through steel as if it were butter. Motion means rigidity.

From the operation of active upon passive finites we have the first elementary particle produced. This Swedenborg regards as a kind of microcosmos—a world concentrated in a single particle. Following out the evolution of finites and actives, we are brought to what we would term nebular matter or cosmic dust, wherein fourth finites form a crust around a vast solar space of actives. The whole is like an elementary particle. The vast is similar to the minute.

We are now brought to the second part of our subject, the evolution of worlds from this nebular matter. And it will be necessary to my purpose to touch slightly upon the history of the nebular hypothesis.

Before the middle of the last century star clusters, then incapable of being resolved into separate stars, were well known. Dim masses of light were observed in the heavens whose nature was not understood. It was Herschel who made a special search for nebulæ, and Rosse gave an impetus to their study in 1845. Then the invention of the spectroscope proved the nebulæ to be vastly diffused material of world-systems in the making; the use of the dry plate in celestial photography completed the evidence, generally, as to their wonderful character.

Here I wish to throw upon the screen one or two photographs of nebulæ. Here you see the great nebula of Orion (fig. 1), which forms what seems to be a hazy star in the sword which hangs from the belt of Orion. This body is a mass of flaming gas, or in Swedenborg's terms, of first finites with actives being formed. The photograph represents a stage in cosmic evolution. Of this nebula Sir Robert Ball says: "Let us imagine a sphere so mighty that a girdle of 185,400,000 miles would just go round its equator, and let this mighty globe be the measure wherewith to enunciate the bulk of the vast nebula of Orion. It can be demonstrated that a million of these mighty globes rolled into one would not equal the great nebula in bulk." [1]

A further stage may be represented by the great spiral nebula found near the last star of the Great Bear (figs. 2, 3). Sir R. Ball says of this: "The great spiral nebula may be considered to exhibit at this moment a system in actual evolution, the central body of which is certainly thousands of times, and not improbably millions of times, greater than

[1] *The Story of the Heavens*, p. 464, ed. 1890.

the sun. Many portions of the nebula have become already outlined into masses which, though still far from resembling the planets in the solar system, have at least made some approach thereto."[1]

You have before you now a beautiful photograph of the wonderful nebula Andromeda (fig. 3). A writer says of this: "The rifts seen in the photograph mark the separation between the central nebula and a ring thrown off from it, seen in perspective; and we see actually in the sky the state of things which Laplace suggested in his famous nebular hypothesis—a central nebula, which in rotation throws off a series of rings, some of which break up to form satellites."[2] The photograph before you (fig. 5), showing a ring nebula, indicates a more advanced stage, probably tending to disruption and the ultimate formation of planetary bodies.

What inference do astronomers draw from these mighty phenomena? The late Prof. Newcomb, amongst others, says: "For untold æons before the geographical changes, now visible, commenced, our planet was a molten mass. During all those æons the sun must have been in existence as a vast nebulous mass, first reaching as far as the earth's orbit, and then contracting its dimensions. The doctrine of cosmic evolution, the theory which in former times was generally known as the nebular hypothesis—that the heavenly bodies were formed by the slow contraction of heated nebulous masses—is indicated by so many facts that it seems scarcely possible to doubt it."[3]

And the author whom I have just previously quoted says: "According to Laplace's nebular hypothesis, the whole solar system has been generated from a single nebula, the greater part of which now forms the sun. As this nebula contracted from its original diffused form, rotating faster and faster, it threw off rings which broke up and formed planets."[4]

The mention of Laplace compels me to quote from another writer; and I shall have to show presently Swedenborg's place in the history of this question. "For more than three-quarters of a century," says Mr. Garrett Serviss, in his work, *Curiosities of the Sky*, "Laplace's celebrated hypothesis of the manner of the origin of the solar system from a rotating and contracting nebula surrounding the sun had guided speculation on that subject, and had been ten-

[1] *The Earth's Beginnings*, p. 195.
[2] Robert Hall Turner, *Modern Astronomy*, p. 236.
[3] *Side Lights on Astronomy*, p. 57.
[4] Robert Hall Turner, *Modern Astronomy*, p. 272.

Fig. 4.—SPIRAL NEBULA IN TRIANGULUM

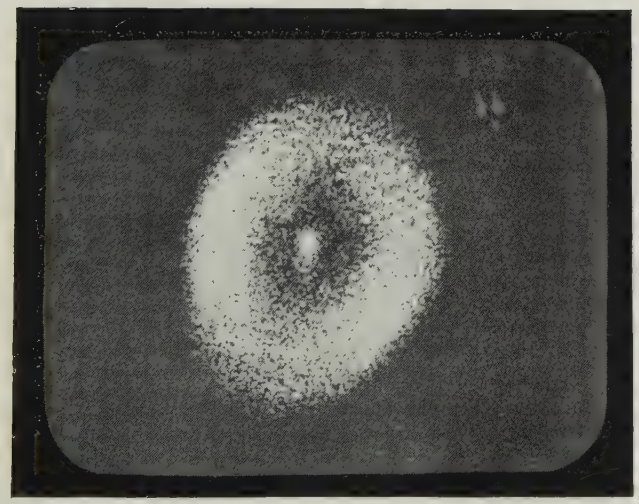


Fig. 5.—RING NEBULA IN LYRA [*p.* 78

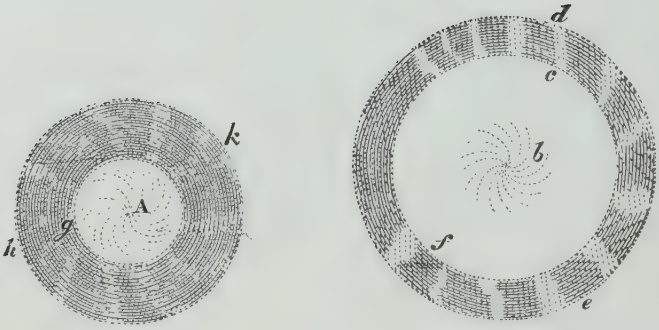


Fig. 6.—*a.* CHAOS OF SOLAR CRUST, AND ITS STATE OF SEPARATION

b. SAME CRUST EXPANDED INTO A LARGER RING

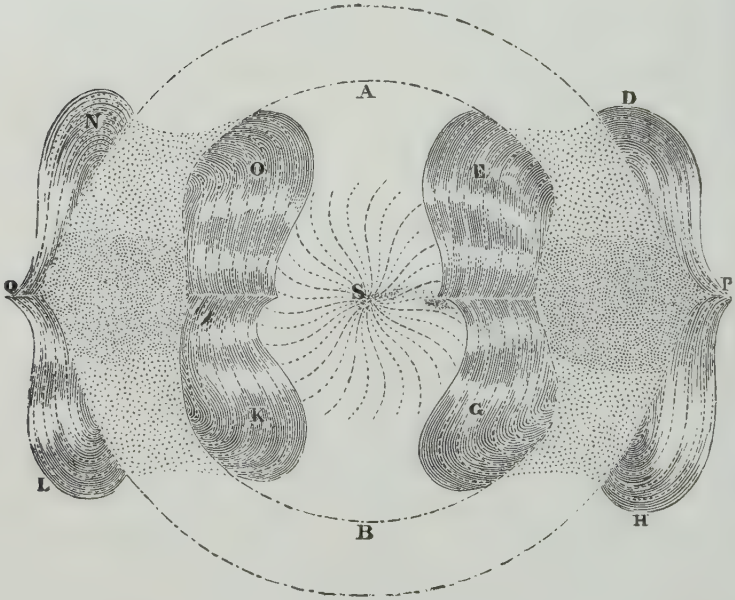


Fig. 7.—STATE OF DISRUPTION AND COLLAPSE OF CRUST

[*p.* 79

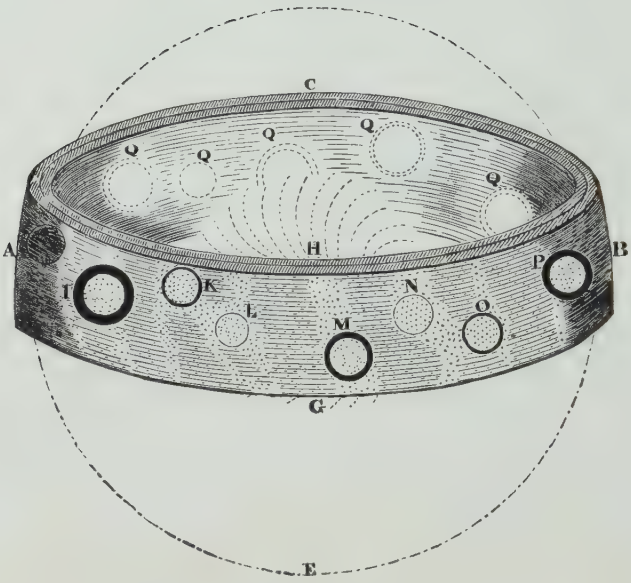


Fig. 8.—CRUST COLLAPSED INTO THE FORM OF A ZONE

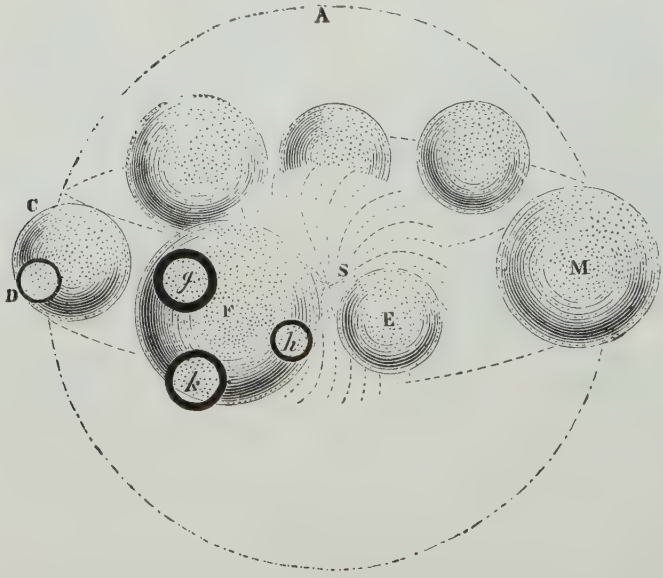


Fig. 10.—FORMATION OF THE BODIES INTO GLOBES AFTER DISRUPTION OF THE ZONE

[p. 79

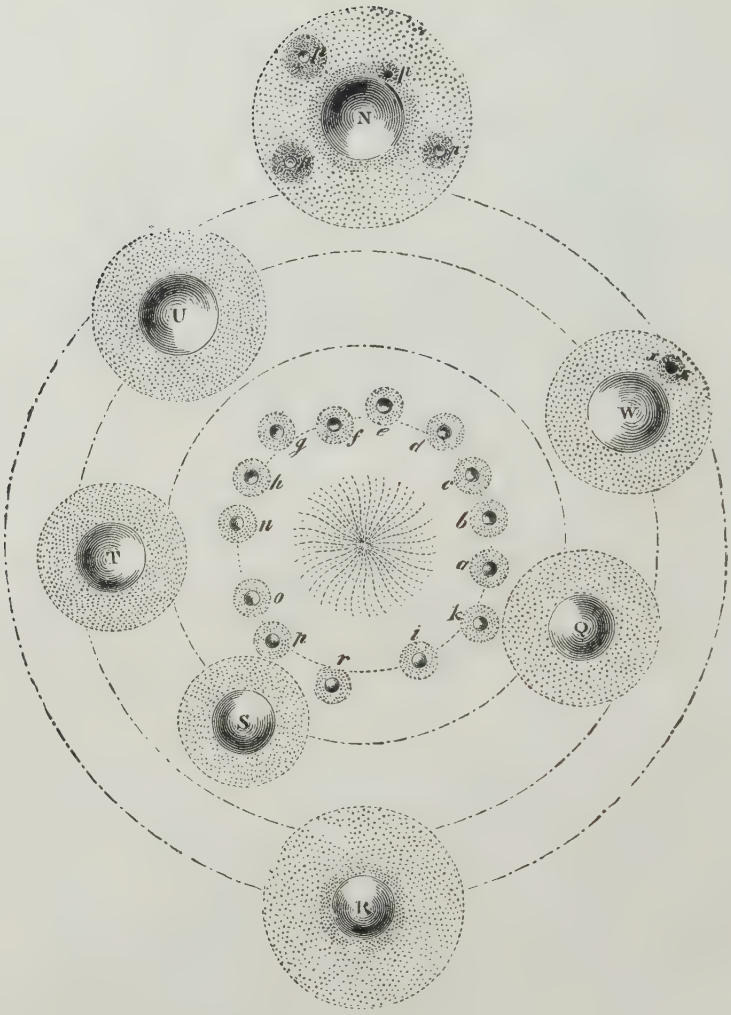


Fig. 9.—THE BODIES ISSUING FROM THE SUN AND VEERING TOWARDS THE CIRCLE OF THEIR ORBIT

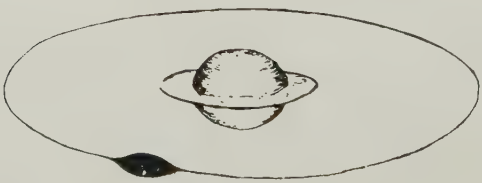


Fig. 11.—EARTH PROJECTED FROM SUN. FLAMMARION

[p. 79

tatively extended to cover the evolution of systems in general. The apparent form of some of the nebulæ which the telescope had revealed were regarded, and by some are still regarded, as giving visual evidence in favour of this theory. There is a ring nebula in Lyra, with a central star and a planetary nebula in Gemini, having no little resemblance to the planet Saturn with its rings, both of which appear to be a practical realization of Laplace's idea; and the elliptical rings surrounding the central condensation of the Andromeda nebula may be cited for the same kind of proof." [1]

Again he says: "That there are unconquered difficulties in Laplace's hypothesis no one would deny; but in simplicity of conception it is incomparably more satisfactory, and, with proper modification, could probably be made more consonant with existing facts in our solar system than that which is offered to replace it." [2]

Now I want to show you that the above quotations are the case for Swedenborg. Taking his *materia prima* as nebulous matter consisting of first substantials, and conceiving this to have evolved finally into actives and finites, we can follow Swedenborg in his diagrammatic representation of the world-forming process in the *Principia*. The slides I shall now show you are taken from his own drawings. The diagram (fig. 6) shows in the smaller picture a centre of actives surrounded by a broad ring of passives. This centre is the sun. The other diagram represents a greater expansion and attenuation towards disruption. In the slide on the screen (fig. 7) we have the ring of passives broken up into two masses, which have carried away with them vast quantities of actives, a further stage of preparation for the completion of the process. The next slide, to use Swedenborg's words, "represents the crust collapsed into the form of a zone in the plane of the equinox" (fig. 8). This shape precedes that shown in the next two slides (figs. 9, 10). Observe that there are seven bodies. Now Swedenborg does not designate any of these by name; and it is a curious fact that while he represents seven planets, only six were known in his day, Uranus having been discovered in 1781 by Sir Wm. Herschel, and Neptune in 1846 by Adams and Le Verrier. I counsel you not to make too much of this point, for Swedenborg was no prophet in this matter. The last slide I have to show you is a very beautiful representation of Swedenborg's conception of the planets in the final state of formation, each being surrounded with what he here calls ether. In the centre is

[1] Page 91. [2] *Ibid.*, p. 110.

the sun, and surrounding the sun is a number of bodies which he calls spots of the sun. What he meant by this I do not know; but it is certain that sun spots are not produced by bodies revolving round that body.

You see now, that Swedenborg not only has given us a theory; but he did what no other philosopher has attempted in like manner, he has illustrated it by a series of drawings —diagrammatic, of course, only—which imparts a fixity to his conception, and gives a rough idea of that theory of world-formation which still holds a large measure of the field.

I desire to emphasize still further the credit due to Swedenborg for his wonderful scientific imagination, his keen perception and his anticipation of modern ideas.

You have before you a diagram (fig. 11) which Flammarion, in his *Popular Astronomy*, uses to illustrate the formation of the earth from the sun. The mass of the earth is already speeding towards its final orbit and spheroidal form, the sun being still surrounded by a ring. Swedenborg holds that the earth, thrown off from the sun, moved in a spiral orbit round its parent until it attained its present orbit.[1] This view is substantiated by Sir Robert Ball, who says, "As the planet was originally continuous with the sun, it had a motion of rotation besides its motion of revolution; and it revolved round its own axis in a period equal to that of its revolution round the sun."[2] And in *Time and Tide* he says, "Thus we look back to a time at the beginning of the present order of things, when the day was only some three or four hours long."[3] Now Swedenborg, echoing his earlier view, says in a later work, "There was a time when the earth moved over the disk of the sun like a spot."[4]

Again, he says satellites were thrown off from the planets as the earth was projected from the sun. On this theory the moon was once nearer the earth as the earth was formerly nearer the sun, or, to use his own words, "The moon was now near the earth."[5] Let me now quote Sir Robert Ball again. In *Time and Tide* he comments on the high temperature of the earth and the moon, and says: "It has been

[1] Here an experiment was performed by the Rev. J. R. Rendell, B.A., and thrown on the screen, which showed how a sphere of oil floating in a liquid, and revolved by a spindle, throws off spherical portions from itself—demonstrating the theory under consideration.

[2] *The Earth's Beginnings*, p. 252.

[3] Page 76.

[4] *The Worship and Love of God*, p. 16.

[5] *Ibid.*, p. 17.

supposed, and there are some grounds for the supposition, that at this initial stage of earth-moon history the moon materials did not form a globe, but were disposed in a ring which surrounded the earth, the ring being in a condition of rapid rotation. It was at a subsequent period, according to these men, that the substances in the ring gradually grew together, and then by their mutual attraction formed a globe which ultimately consolidated down into the compact moon as we now see it." [1] And again, "It is now known, mainly by the researches of Prof. G. H. Darwin, that in all probability the moon was originally a part of the earth." [2] Prof. Sollas confirms this in saying, "But it is difficult to resist the supposition that in the immediately preceding stage of development the earth and the moon formed together a single sphere." [3]

The correspondence between Swedenborg's conception and those reached by modern research is certainly remarkable. Working from primary origins he deduces a theory which has been generally established by the spectroscope, the telescope and the photographic plate. He saw in his scientific imagination worlds in the making.

Sir Robert Ball, giving the credit to Kant and Laplace, uses these words in his work, *The Earth's Beginnings:* "That three different men of science, approaching the study of, perhaps, the greatest problem which nature offers us from points of view so fundamentally different, should have been led substantially to the same results is a remarkable incident in the history of knowledge. Surely the theory introduced under such auspices and sustained by such weight of testimony, has the very strongest claim to our attention and respect." [4]

These words are an authoritative vindication of the theory; but it is now necessary to establish Swedenborg's priority in this matter of the nebular theory. While he has received here and there scant and tardy acknowledgment, to Kant and Laplace has the merit been generally accorded. Lately, however, a tendency has been shown to give Swedenborg credit in this matter. Prof. Arrhenius, the celebrated Swedish physicist, has given him his right place in his introduction to the Latin reprint of Swedenborg's *Cosmologica.* Prof. Sollas, in an article in Harmsworth's *History of the World,* says: "It was not until the middle of the eighteenth century that

[1] Page 96. [2] *The Earth's Beginnings,* p. 254.
[3] Harmsworth's *History of the World,* p. 84.
[4] Page 12.

the reign of evolution began, and attempts were made to trace the history of a planetary system from its source in a primeval nebula on purely mechanical grounds. Swedenborg was the pioneer in this direction, then came Thomas Wright of Durham, whose work furnished inspiration to Emanuel Kant. The last of this group of cosmic philosophers is Laplace. J. Morrison, M.D., Ph.D., the astronomical editor of *The World Almanack*, 1910, in an article on "Earthquakes, their causes and results," says:—

"The cosmogony of our solar system (including, of course, the earth and sun) rests on the nebular hypothesis first propounded by Swedenborg, but not generally accepted in his time; it was, however, subsequently revived and partially confirmed by the researches of Sir William Herschel, after a careful study of the nebulæ as shown by his powerful telescope. At a still later date it was examined by one of the most distinguished mathematicians and astronomers that ever lived, the celebrated Laplace, who gave it to the scientific world nearly in its present form, and is erroneously known as the nebular hypothesis of Laplace, now universally accepted. by astronomers as the true cosmogony of our solar system. It should, however, in all justice be called the nebular hypothesis of Swedenborg. It did not receive its final confirmation until the discovery of the spectroscope—an instrument designed for the analysis of light. This instrument shows the nebulæ which Herschel, Laplace and others regarded as groups of stars, to be in reality prodigious masses of incandescent gas at a temperature beyond anything we can conceive or comprehend."

These are valuable and just testimonies to Swedenborg's claims. Generally, however, he is ignored in this matter because overshadowed by Kant and Laplace. And in a work specially devoted to Kant's cosmology by Prof. Hastie, D.D., published in 1900, Swedenborg is only casually mentioned.

Let us now see what Kant's views were. His own words, contained in his *Natural History of the Heavens*, are: "All the material composing the spheres that belong to our solar system were, in the beginning of all things, resolved into their elementary substances and filled the whole space of the system in which the spheres now move."[1] Kant, in face of this, can hardly be designated a cosmic evolutionist, for he has, unlike Swedenborg, no theory of the origin of cosmic matter. Arrhenius, in *Worlds in the Making*, explains Kant's theory in this way:—

[1] Page 95.

"Kant started from an original chaos of stationary dust which, under the influence of gravitation, arranged itself as a central body, with rings of dust turning round it; the rings, later on, formed themselves into planets. The laws of mechanics teach, however, that no rotation can be set up in a central body, which is originally stationary, by the influence of a central force like gravitation. Laplace therefore assumed, with Swedenborg, that the primeval nebula, from which our own was evolved, had been rotating about the central axis."[1]

Whether Kant owed his conception of rings of dust, and planets thrown off, to Swedenborg, matters little, for he leaves out of consideration the main points of his theory—motion as originating cosmic matter, and the intrinsic nature of that matter. At least Kant may have borrowed Swedenborg's conclusions without acknowledgment; he has certainly received the credit belonging to another: the penalty sometimes paid by a great name. He may, however, have known nothing of Swedenborg's theory, for the same idea may enter the minds of two men independently, as was the case with Priestley and Lavoisier, the discoverers of oxygen.

We now come to Laplace, who somewhat incidentally, in a note at the close of his *Système du Monde*, broaches his theory as follows:—

"From a consideration of the planetary motions, we are brought to the conclusion that in consequence of the excessive heat the solar atmosphere originally extended beyond the orbits of all the planets, and that it has necessarily contracted itself within its present limits. In the primitive state in which we have supposed the sun to be, it resembles those substances which are termed nebulæ, which, when seen through telescopes, appear to be composed of a nucleus, more or less brilliant, surrounded by a nebulosity which, by condensing on its surface, transforms it into a star. If all the stars are conceived to be similarly formed, we can suppose their anterior state of nebulosity to be preceded by other states, in which the nebulous matter was more or less diffuse, the nucleus being at the same time more brilliant. By going thus far back in this manner, we shall arrive at a state of nebulosity so diffuse that its existence can with difficulty be conceived.

"We may therefore suppose that the planets were formed at its successive limits, by the condensation of zones of

[1] Page 206.

vapours which it must, while it was cooling, have abandoned in the plane of the equator." [1]

Laplace, you see, also starts with pre-existent nebular matter; the question of origins is left out of account as in the case of Kant.

Now whether Laplace owed anything to Swedenborg we have no evidence. But whether both Kant and Laplace worked over Swedenborg's ideas or not, there can be no doubt whatever as to priority. It is simply a question of dates of publication, and these are incontrovertible.

Swedenborg's *Principia* was published in 1734; Kant's *Natural History of the Heavens* in 1755, and Laplace's *Système du Monde* in 1796.

There is another matter in which Swedenborg's priority must be established. In 1750 Thomas Wright, M.A., of Durham, published a work entitled, "*An Original Theory of the New Hypothesis of the Universe founded upon the Laws of Nature and Mathematical Principles.*" This book is very rare, and hardly any of the writers who refer to it would seem to have read it. A copy is contained in the British Museum Library. It is a curious mixture of scientific speculation, bad theology and poetical quotation. Up to his time there was no definite notion respecting the distribution of stars in space, and the form of our universe. This he refers to in these words: "How absurd it is to suppose one part of the creation regular and the other irregular, or a visible circulating order of things to be moved with disorder and a part of an endless confusion, is obvious to the weakest understanding, and consequently we may reasonably expect that the *via Lactea*, or milky way, which is a manifest circle among the stars, conspicuous to every eye, will prove at least the whole to be together a vast and glorious regular production of being out of the will and fecundity of the eternal infinite, one self-sufficient cause." [2]

This statement has been worked over by astronomers, and a theory that our universe is built up on the plan of a vast sphere is now held. Prof. Newcomb says, "Stars increase from the galactic poles to the milky way. The stellar system is built up with special reference to the milky way as a foundation." [3]

Now Swedenborg, comparing the starry heavens to the sphere around the magnet, perceived that the universe is

[1] Translated by Rev. Dr. Hastie, Laplace's note vii, at end.
[2] Letter VI, end.
[3] *Form of the Universe*, p. 38.

built up in reference to the milky way. And he says: "The common axis of the sphere or sidereal heavens seems to be the galaxy, where we perceive the greatest number of stars. Along the galaxy all the vortices are in a rectilinear arrangement and series, and cohere as to their poles. The other polar or stellar vortices afterwards proceed from the axis and are bent in different directions; but all have reference nevertheless to that axis."[1] This agrees with Prof. Newcomb's words, "The stellar system is built up with special reference to the milky way." The term axis, as used by Newcomb, is the line perpendicular to the equatorial plane which the milky way engirdles. If, however, by axis Swedenborg means the circle of the milky way, from which all other stellar vortices proceed, or are bent, then Swedenborg and Newcomb still agree.

It is supposed that Thomas Wright laid the foundation of this idea. We now see that, sixteen years before Wright's book was published, Swedenborg had seen and worked out the theory. Further, he maintained that there may be countless other heavens. "The sidereal heaven, stupendous as it is, forms, perhaps, but a single sphere; possibly there may be other spheres and countless other heavens similar to those we behold."

I trust sufficient evidence has now been adduced to indicate the wonderful reach of Swedenborg's capacity to sound the profound depths of this department of the phenomena of the universe; and to justify his claims as an original thinker, an extraordinary pioneer of research, and a genius of commanding power and ability.

[1] *Principia*, vol. ii, part iii, chap. i. 8.

Sub-Section B

Chairman: Rev. F. Sewall, M.A., D.D.

SWEDENBORG ON THE DUCTLESS GLANDS, WITH MODERN CONFIRMATIONS

By David Goyder, M.D.,
Consulting Physician, Bradford Royal Infirmary.

Swedenborg's deductions on the functions of the ductless glands of the human body are contained in his two works, *The Animal Kingdom* and the *Economy* of the same, published 150 years ago.

The medical reader of to-day, studying these works for the first time, cannot fail to be struck with the close acquaintance of the author with the subject upon which he treats, nor fail soon to discover that he anticipates much of the light which is just dawning upon the physiology of the present time; and although he must also become conscious of the crude methods of examination employed by the anatomists of the eighteenth century, and their still cruder chemistry, yet Swedenborg by his enlightened method of study and the advanced principles he brings to bear upon his investigations, especially those of his doctrines of *Order* and *Form*, and of *Series* and *Degrees*, was enabled to arrive at conclusions which time has shown to be at once luminous and accurate.

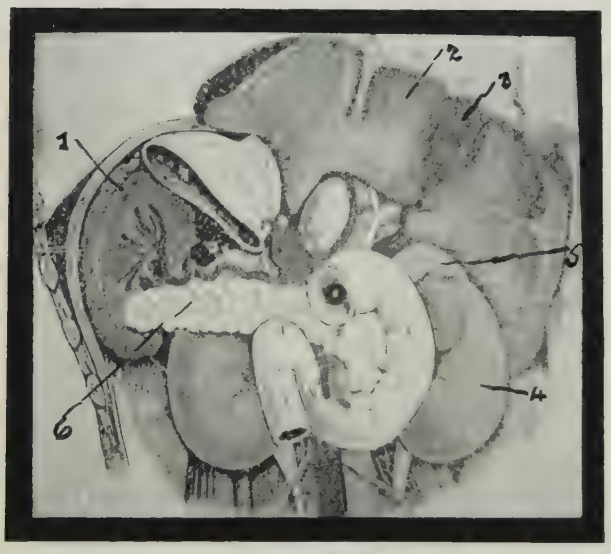
Systematic chemistry, it must be remembered, whether organic or inorganic, was scarcely born 150 years ago. The discovery of oxygen had to await the researches of Priestley and Laviosier, but Swedenborg and his contemporaries knew the fact that the brilliant scarlet hue of arterial blood was due to the change wrought by the constituents of the atmosphere upon the blood corpuscles as these circulated through the lungs. Swedenborg, it is also to be understood, was not only practically versed in anatomy, but a master of the knowledge contained in the works of Willis, Vieussens, Winslow, Heister, Boerhaave, Leeuwenhoek and the rest, and these writings are still of standard authority to-day, although the science has been further developed, especially in histological detail.

When Swedenborg undertook these studies he was already a man in years and erudition; he had an acknowledged reputation as one of the first scientists of his time. The character and direction of his studies were no doubt influenced by an advanced mind, imbued with a profound belief in, and reverence for, the Divine Being, the God of creation, and the origin and inspirer of all life. He had a genius for the pursuit and acquisition of truth, and was at this time seized with a thirst to frame a system of rational psychology, and to trace the soul and its action in and upon the body. He did not, as Haeckel, build up or evoke an intelligent will and intellect from an aggregation of thinking monistic atoms, but regarded man as created by God as he is, and as an organized recipient of life *from* God, created by the descent of that Life through orderly, discrete degrees from first principles to ultimates, the life power procreating the structure through which it manifests itself.

As the medium or link between man and his body Swedenborg accepted the theory of the older anatomists and authors,

Photo, Prof. Gruner] Fig. 1.

THE RIGHT AND LEFT SUPRARENAL CAPSULES, LYING UPON THE UPPER SURFACE OF EACH KIDNEY



Photo, Prof. Gruner] Fig. 2. [*p.* 86

This illustration is unfortunately reversed.
1. The Spleen. 2. The Liver turned upwards. 3. The Gall Bladder. 4. The right Kidney. 5. The right Suprarenal Capsule. 6. The Pancreas.

that of *the animal spirit*, concerning which, for the full understanding of this paper, I must make a few remarks.

This so-called animal spirit he describes as a diffused and diffusable influence or power, which, existing within the nervous cells, flows into and along the fibres issuing therefrom, and circulates to their very terminations, pervading every organ, vessel, tissue, and cell in the body, and securing thereby its life, nutrition and action. Now, it is universally admitted to-day that nervous influence dominates and presides over all the bodily structures, and that without it life and action would be impossible. This being agreed, we naturally ask what is this animal spirit, and whence does it come? Swedenborg gives it a kind of dynamic, penetrative power; he speaks of it as "flashing through the nerves"; by which I apprehend him to imply the condition which we all acknowledge, and of which we are all conscious, viz. the almost simultaneous transmission of sensation *to* the brain, and of motive impulse *from* it. This we *know* is like a flash; but what is the thing itself? Well, hitherto it has escaped physical analysis, and for the very satisfactory reason that in nature and quality it seems to transcend ordinary matter. The only explanation we have of it comes from Swedenborg himself, who distinctly allies it with the imponderables, the higher substances or forces of nature which he describes as atmospheres, the ether or electro-magnetic aura, and an aura even higher, reaching upward and inward to the very confines of the spiritual sphere, the limbus or border of the physical universe.

Now, if this is the character of this spirit, we may inquire how its action is effected in the human body? and I venture to suggest that, just as these imponderable atmospheres interpenetrate each other and all beneath them, and by intermediates become adjoined to grosser substances, as, for example, in the loadstone and in radium, etc., so also this influence, this spirit, call it what you will, is elected or *se*lected by the nervous cells on their first formation, and continues associated with them from conception till physical death. For it is impossible that the human body as a microcosm can escape the penetration of these imponderables; or that the influx of the Divine life is not adequate to subject them to so pre-eminent a use in the human organism: and further, if these auras can be adjoined to grosser matter, so may this spirit ally itself more closely with certain special organs for certain special uses, which Swedenborg assures us is the fact.

Considering, therefore, the necessity and high office which Swedenborg assigns to this *animal spirit*, and knowing that there *must* be a medium between will and intellect and bodily action, which is proven by our experience of it, I accept its existence, and shall use his terms throughout this paper; and I do this the more readily because Swedenborg does not describe it, as some would almost imply, as living itself, but as being the first bodily acting instrument of life, the life itself inflowing from God, the only Ens. This spirit, however, as its first instrument, is wielded by the life so perfectly and universally in the body, that it seems as if it *did* live, govern and organize. Swedenborg, in paragraph 245 of his *Economy*, defines the difference between life and the animal spirit. He says, "On account of the influx of this life (the Divine life), which is the *principal* cause, this purest fluid (the animal spirit), which is the *instrumental* cause, is to be *called* the spirit and soul of the body."

Understanding this distinction, it is now to be said that the animal spirit operates in the body in two different ways, the one *in*voluntarily, the other voluntarily.

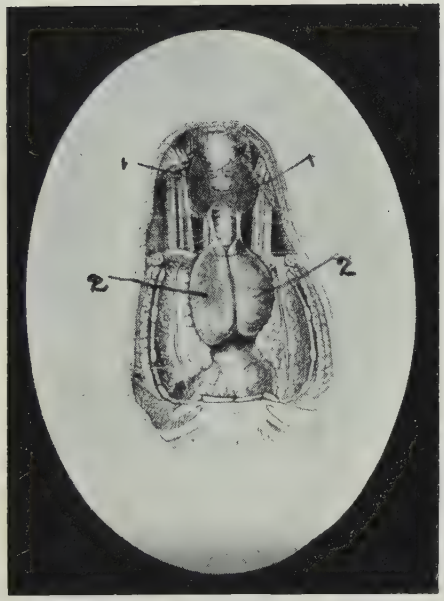
The *in*voluntary, over which we have no control, acts through the cerebellum and the vast series of ganglia and their nerves, known as the sympathetic system. All we have to do voluntarily is to take food, the rest is done for us, for the body is built up and sustained by this influence from the cradle to the grave.

The voluntary, on the other hand, is presided over by the cerebrum and the cerebro-spinal axis (though co-ordinated by the cerebellum), and through them the body, thus sustained, is used by the man, as a perfect organism and a willing servant, in order that he may execute all his desires and thoughts in his intercourse with his fellows and the world, an arrangement which, in the Divine wisdom, secures man's perfect liberty.

Swedenborg classifies the fluids of the body into three orders and their circulation through special vessels.

1st.—*The animal spirit*, which, originating within the nerve cells, wherever these exist, is conveyed within the fibrils of the nerve tubes to every organ and tissue of the body, the spirit circulating by virtue of a propulsive motion conveyed to it by the rhythmic rise and fall of the brain.

2nd.—The fluid which he calls *the white or purer blood*. This includes the cerebro-spinal fluid which circulates around the brain, and accompanies the nerve strands from



Photo, Rendell] Fig. 3. [*p.* 88

THE THYROID AND THYMUS GLANDS

1. 1. The Thyroid Gland with its two lobes surrounding the larynx, and connected by a band which is sometimes developed into a third lobe, the Pyramidal lobe. The gland is rather indistinctly seen in the illustration.
2. 2. The right and left lobes of the Thymus Gland. Here the Gland is seen as it is in early life and in the fœtus, it decreases after birth, and shrivels in later and aged life.

thence to their last distribution, segregating every individual fibril: this fluid joins the lymph-serum, which bathes the bodily membranes that ensheathe the viscera; and being taken up by the absorbents of the lymphatic system, to which is gathered the chyle from the digested food, the whole stream flows on through the elaborative lymphatic glands into the great chyle receptacle, and thence is poured into the blood.

3rd.—The third fluid is the *red blood*, compounded of the two preceding orders, and loaded with white and red blood corpuscles (the product of the ductless and the lymph glands). By the heart's propulsion this combined fluid circulates universally, every organ and tissue selecting from the arterial capillaries its appropriate pabulum. Into this fluid also all effete products of tissue transformation are conveyed, and carried in the venous current to kidneys, lungs and skin for elimination or purification.

The glands of the body, lesser and greater, are also of three kinds—

The first have emissary ducts, such as the salivary, the gastric, the pancreatic, and the biliary and others; these pour out their secretions, especially the first four, upon the food in its digestive progress, as do also the follicular intestinal glands; the lungs, *as* glands, exhale moisture and gaseous impurities into the air; the innumerable follicular glands of the skin exhale watery and unctuous matters, also externally; the kidneys excrete saline impurities in watery serum, and so on.

The second series are transmissive; they take in, elaborate and pass out the combined lymph stream alluded to above. They constitute the great lymphatic circulation, conveying the white blood.

The third series of glands have, strictly speaking, neither emissary nor receptive ducts, but from the large supply of blood they receive, and their special nervous elements, their structure gives origin to the peculiar secretion and blood cells, which are at once poured into the blood through their venous trunks; hence this series of glands is termed *ductless.*

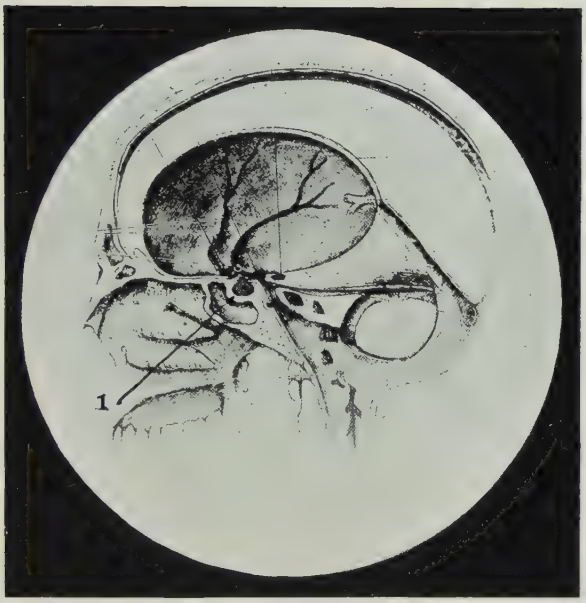
The principal ductless glands are the *Spleen,* the *Suprarenal capsules,* the *Thyroid,* the *Pituitary,* and the *Thymus.* Of these our remarks must be confined mostly to three.

Now, I particularly desire you to note that Swedenborg

assigns pre-eminent functions to these ductless glands, from their situation, structure, abundant supply of arterial blood, and especially large nervous supply; the latter giving them a larger amount of the animal spirit than is conveyed to other organs; because we can thus account for the extraordinary influence of their secretions in heightening the stimulative power of the circulatory blood, and increasing its metabolic or nutritive action. Moreover, Swedenborg credits these glands with the origin, change, and rejuvenation of the *red* blood corpuscles, the white corpuscles having their origin in the lymphatic glands mainly.

In my student days, 1856–60, little or nothing was known as to the use of these ductless glands. Huxley, in 1870, writes: "Of these glands nothing certain as to function is known, and we are as much in the dark as to the use of the large viscus called the spleen." He, however, recognizes a rise and fall in this organ; whereas in his *Animal Kingdom* Swedenborg states that all the ductless glands possess an animatory motion, a systolic contraction, and a diastolic expansion. Again, in Starling's *Elements of Physiology*, published in 1896, he says: "Under the title of the ductless glands a number of organs are grouped, the sole resemblance of which lies in the fact that we know very little about them." He admits, however, that they exhibit an important though obscure influence on the nutrition of the body. But turning up Kirke's *Physiology*, we find, in his fourteenth edition, published about the same time as Starling's, new light upon their function. He says: "The internal secretion of these glands is found to be essential to life, for the removal or extirpation of the gland which forms it leads to increasing disease, culminating in death"; and he goes on to say that he regards these glands as a group "forming links in the metabolic chain of the various organs of the body, and when this nutritive circle becomes disorganized by disease, or ceases altogether, the whole chain breaks down."

Proceeding now to a brief anatomical description of the first of these glands, the *Suprarenal capsules*, otherwise called the *succenturiate kidneys*, because in uterine life they supplement, though they do not communicate with, the kidneys: they are "small yellowish flattened bodies, the right three-cornered, the left semilunar. A fissure on their upper surface appears to divide them into two lobes. They are larger in fœtal than adult life. Their external yellowish hue becomes brown interiorly. When laid open, the outer coat consists of a firm areolar capsule, which sends processes



Photo, Rendell] Fig. 4. [*p.* 90

LONGITUDINAL SECTION OF THE SKULL, SHOWING THE PITUITARY BODY OR GLAND

1. The line points to the Gland lying in the Sella Turcica, which is seen cut in halves beneath it.

through the interior medullary substance; these processes have rounded cavities containing granular matter made up of nuclei and cells. The dark medullary interior, which is thrice as thick as the cortex, presents, amongst a fine network of areolar tissue, a granular substance with cells resembling nerve cells. A great number of nerves ramify through them, and multipolar cells like those in the brain have been detected in them. Both glands are largely supplied with blood from the cœlic axis of the aorta, the vessels penetrating the cortex at every part of their surface, forming plexuses underneath and in the medulla. The nerves are very numerous from the renal and phrenic plexuses of the semilunar ganglion. Kolliker counted thirty-three trunks, composed of dark-bordered nerve cells, and provided with isolated ganglia. These are distributed to the central medullary part *only;* in this they form a rich nervous plexus. The veins run through the middle of the medulla and issue into the renal vein and the vena cava. The lymph absorbents are numerous in the glands."[1]

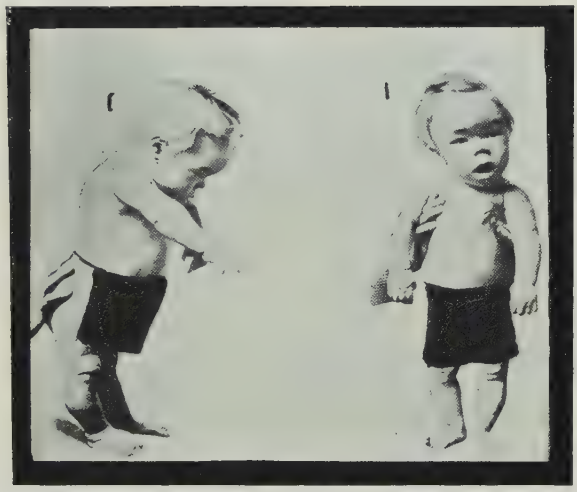
Now, in this recent description we cannot fail to note the abundant blood and rich nervous supply, not merely of terminal nerve fibres, but multipolar nerve cells and ganglia; hence the nutrient and stimulative power of the secretion of these glands upon the blood, receiving, as they do, increased force from the animal spirit.

This recent *Anatomy* adds very little to that which Swedenborg cites from the older authors in his *Animal Kingdom*, though the details are more precise. Both authorities, old and new, agree in describing these glands as much larger in fœtal than adult life. But the modern physiologists, if they now agree in assigning to them nutrient functions, seem oblivious to the complementary use which Swedenborg attributes to them in the embryo. To illustrate: It is known that the functions of the kidneys and bowels are largely suspended in intra-uterine life until birth. Now this suspension Swedenborg affirms is provided for, in the case of the kidneys, by the then transferring power of these glands: a large amount of fluid lymph and serum is effused around the abdominal viscera and on the peritoneal surface, and this fluid is drawn by the absorbents of these organs into their interior, is elaborated there, and transmitted at once through their veins into the vena cava. These veins in fœtal life are so large as to emit more blood than they receive from the arteries, and thus this diversion of fluid from the kidneys

[1] Buchanan and Wilson's *Anatomy*, pp. 664–5.

keeps the bladder almost empty during pregnancy. This important function, as declared by Swedenborg, strikingly accounts for the increased size of these glands in fœtal life, and their diminution after birth when the other organs come into play. But the primary functions of the glands, though diminished in size after birth, cannot be dispensed with during the whole period of adult life without the most disastrous consequences. And here disease more than anything else has confirmed Swedenborg's deductions as to their paramount value. To illustrate: It has been established by experiment that removal of these adrenal glands from animals produces widespread lesions, degeneration of the nervous centres, and rapid death. Again, the experiments of Oliver and Schafer, confirmed by Prof. Osler, show at once the importance to life of their secretion, and the nature of the results when it is absent. *Addison's disease* has been found to be caused from the loss of the function of these glands, either by tubercular lesions, or the cutting off of their nervous influence through degeneration of the semilunar ganglion of the sympathetic. The symptoms of the affection are: an increasing bodily weakness, remarkable feebleness of the heart's action, vomiting; fits of faintness, in any of which the patient may collapse; and there is associated with the disease a peculiar yellowish or brownish pigmentation of the skin—*bronzed skin* as it is termed—the sufferer ultimately sinking.

When I come to speak of the thyroid gland, I shall describe the results of treatment by thyroid extract; here, as it regards Addison's disease, a similar kind of treatment has been applied. An extract from the substance of the healthy suprarenal gland of the sheep having been prepared, we learn from the experiments of Oliver and Schafer that it was administered in 28 cases of this disease. Of the 28, five were cured; twenty were greatly improved, and only three died. Swedenborg, in paragraph 407 of his *Animal Kingdom*, makes the following statement. He says, 'The dark-coloured contents in the cavities of these glands is a kind of extremely pure extract of the blood, a small quantity of which is capable of converting a large quantity of chyloid serum into blood." Remember this was written 150 or more years ago! Swedenborg is here speaking of the influence of these glands in fœtal life, but he adds, "Whether this juice has the like property in adults I leave to inquiry, also whether experience be in agreement with what I have previously stated."

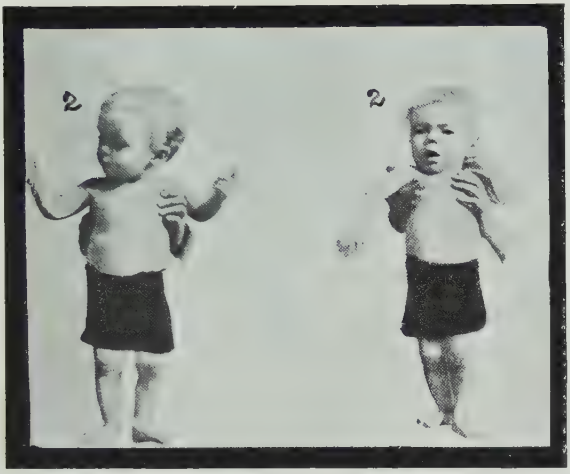


Photo, Stephen Paget, F.R.C.S.] Fig. 5. [*p.* 92

CASE OF CRETINISM. TO ILLUSTRATE PROFESSOR OSLER'S CASE

This case illustrates the wonderful changes wrought in the condition of an almost idiotic child by the administration of Thyroid extract. The Thyroid Gland was absent in the child.

1. 1. The child before treatment, aged five years.



2. 2. The child after four months' treatment.

3. 3. The child after eleven months' treatment. [p. 92
The photographs speak for themselves.

It is evident from the bronzing of the skin in this disease that though the dark pulp of the gland has lost its spirituous force, its pigment escapes from the gland through the blood and tinges the skin. This condition does *not* obtain in health, it is then retained in the gland, and its trophic secretion *only* given to the blood. Swedenborg's inductive surmise as to the retention of the metabolic influence of these glands throughout adult life has since been amply demonstrated both by disease and experimental proof. An extract of the healthy gland of the sheep, administered in shock and collapse from accidental causes, is at once found to increase the blood pressure by its stimulative effect upon the muscular structure of the heart and arteries, and restore the patient from shock.

I find it necessary to pass on to the principal subjects of my paper—the thyroid and pituitary glands—on account of the limited time allotted to me. I can only say of the *Thymus Gland*, that it scarcely concerns our present inquiry, seeing that its function is almost entirely confined to intra-uterine life. Its great uses when the function of the lungs is in abeyance are fully described by Swedenborg, who ascribes to it supplementary offices which require even yet the attention of modern physiology. Though this gland shrivels gradually to mere connective tissue after breathing is established in the human subject, yet its function is retained in certain animals for their support during hybernation.

The Spleen is so important an organ as to demand a separate and prolonged paper for its adequate consideration. I therefore, for the present, dismiss it, merely observing that the deductions of Swedenborg as to the breaking down of the effete blood corpuscles whether in this organ or in the liver, deserve further examination by the modern school of medical teachers. Swedenborg's views differ from theirs on many points, and with submission I may add that further light may be thrown upon both organs, especially upon the biliary and other functions of the liver, by an unbiassed examination of his claims. In this relation let me press home the fact of Swedenborg's declaration of the motion of the *spleen;* in fact he asserts in his *Animal Kingdom* that *all* the ductless glands possess a systolic and diastolic movement; and this rise and fall in the case of the spleen has been observed and recorded within the last thirty or forty years; but only recently has the movement been carefully watched and measured, and it is now stated to occur twice in every minute of time.

I now desire to direct your special attention to the *Thyroid Gland*, the functions and affections of which have received more thorough investigation from present physiologists than any other of the ductless glands, the results of which strikingly confirm Swedenborg's estimate of their power of imparting to the blood elements essential to its stimulative, metabolic, and recuperative action.

The thyroid gland is an organ, semilunar in form, situated on each side of the front of the neck. Its two lobes, larger at the extremes, are connected by a band crossing over the windpipe itself. This band is sometimes developed into a third lobe, then called the pyramidal lobe. The whole gland, when normal, weighs about $1\frac{1}{2}$ ounces, and is generally larger in the female, to whom it gives that swanlike curve so graceful in some necks; but in *disease* or *hypertrophy* this form becomes an excessive and ugly protuberance, constituting what is known as goitre, or bronchocele, otherwise Derbyshire neck.

"The gland is brownish-red in colour, and its structure composed of a dense aggregation of independent minute membraneous cavities or fascicles, enclosed in a plexus of blood capillaries connected by areolar tissue. The vesicles are lined by a tesselated epithelium of nucleated cells, and secrete a clear hyaline fluid containing cytoblasts, and cells measuring $\frac{1}{1400}$th inch in diameter. The blood supply is abundant from branches of the external carotids, and the nervous supply equally large from the superior laryngeal and the inferior cervical ganglia of the sympathetic. The gland, like the suprarenal capsules, is a blood vascular and nervous organ, secreting by its cells a peculiar fluid which is taken up by the veins and lymphatics, or both, and conveyed to the circulation, and in this manner performs a function in connection with the production and renovation of the blood." [1]

This modern description agrees with that of Heister as quoted by Swedenborg in his *Animal Kingdom*, especially with respect to the peculiarly large bodies contained in the secretion of the gland. Heister says that he "found a limpid fluid replete with yellowish spherules which floated in water like very minute drops of oil." These spherules answer to the cytoblasts and cells measuring $\frac{1}{1400}$th of an inch in diameter of Buchanan and Wilson's description. As to these Swedenborg remarks—

"Throughout the animal microcosm, nature, ever fearful of the loss of her spirits, encloses them safely, either deep

[1] Buchanan and Wilson's *Anatomy*, p. 616.

Fig. 6. [p. 94

CRETINOUS CHILD, AGED FIVE YEARS, BEFORE TREATMENT BY THYROID EXTRACT

1. The first half of the photo shows the child before treatment, the second half the great improvement after five months' treatment.
2. Again, the first shows the child before treatment, the second half the splendid result after twelve months' treatment.

During this first twelve months' treatment the girl grew nearly six inches in height. This is one of Dr. Thomson's cases, and a most striking one.

in the fibres or in the blood globules, or else in spherules or little ova, and these are never opened but when their special use is wanted."

The support given to the whole of the body by the peculiarly elaborated secretion of these glands, Swedenborg suggests, is also conveyed to the textures and small glands of the neck around them. He says: "The lymphatic glands, so numerous in the neck, the gullet and the æsophagus, receive of the fluids and spirit of the thyroid, which influences their mucous coat and the saliva, and vivifies the action of the stomach in the primary digestion of the food." I need scarcely say that modern physiology makes no mention of these supplementary functions stated by Swedenborg.

I have remarked that this gland is subject to enlargement, constituting goitre or Derbyshire neck; so long, however, as this increase is not excessive, the affection, but for its appearance, is of little consequence, as its secretion is not impaired; but when excessive it becomes dangerous to life by pressure on the larynx and obstruction to respiration. Some years ago, in several extreme cases, the whole gland was successfully removed, and the patients restored to comparative comfort. But it was found that there soon succeeded a wasting cachexia, general atrophy of the body, degeneration of the tissues, brain lesions, and gradual collapse of the sufferers. This striking evidence of the value to life of the gland and its secretion, at once caused abandonment by surgeons of attempts at total removal; but later on it was *discovered* that *partial* removal, such as that of the connecting band across the windpipe, could be effected without dangerous results, and that so long as the major part of the gland was left intact, its function of nutrition was perfectly maintained.

The thyroid gland, like any other organ of the body, is liable to be affected with cancer or tubercle; these affections we must dismiss, merely remarking that, when so affected they illustrate the general diffusion of the gland's secretion, whether diseased or not, from the fact that they become metastatic, appearing quickly and destructively in widely different parts of the body, with fatal results. Another affection of this gland, known as *exophthalmic goitre*, I can only name, with the remark that from its distressing symptoms the gland seems roused to excessive trophic action. The affection generally arises from fright, violent emotions, or intense worry. Only rest, abstinence and mental quiet seem to assist in its removal.

But our special purpose in treating of this gland is not to describe its diseases, but to speak of the effects of the total absence of the gland in infants, and its entire loss of function in adults. These affections are known as *Cretinism* and *Myxœdema*, and their character requires brief description.

Cretinism, which is a form of idiotcy, arises from unexplained causes of non-development in intra-uterine life; the thyroid gland is altogether absent. The child's imperfect condition may not be observed at birth, for the power of the secretion is provided through the blood of the mother; but a short time after birth the child's growth is seen to be retarded, it acquires a vacant look which increases to idiotcy; the teeth are badly developed, the tongue hangs out of the mouth, the abdomen enlarges, the arms and legs are disproportionately formed, and if the child continues to live, these conditions persist and deepen, and the cretin continues to possess infantile qualities only throughout its whole existence.

Myxœdema, on the other hand, which may come on in adults, arises from atrophy or gradual loss of function of the gland; it is more common in women than men, and frequently occurs in members of the same family. It is remarkable how surely the symptoms follow atrophy of the gland, and where this has persisted for years the gland after death is found shrivelled into mere fibrous tissue. In the fewest words I may say the symptoms are:—swelling, or a dropsy-like infiltration of all the subcutaneous tissues; the bodily motions are retarded, the heart's beats become slower, the speech is less quick: mentally, the sufferer loses memory and intelligence, every faculty, in short, becomes blunted, and a general stupidity settles on body and mind. Such a state is to the observer pitiable in the extreme; and yet, wonderful as it may seem, these conditions are being rapidly and triumphantly overcome and *cured*, by the administration to the sufferer of the thyroid gland of the sheep. This success arose out of the patient investigations and experiments of Sir Victor Horsley and his colleague, Murray.

In this relation I cannot do better than recount to you the pithy words of Prof. Osler: he says:—

"Our art has made no more brilliant advance than in the cure of these diseases due to absence, or lost function of the thyroid gland. That we can to-day rescue children, otherwere doomed to helpless idiotcy; that we can restore to life the hopeless victims of myxœdema, is a triumph of experimental medicine for which we are indebted very largely to Sir Victor Horsley and his colleague, Murray. Various forms

Photo, Jno. Thomson, M.D., F.R.C.P., Edinburgh.] Fig. 7. [*p.* 96

CASE OF CRETINISM, AGED TWENTY-FIVE YEARS, BEFORE TREATMENT. CAUSE, ABSENCE OF THYROID GLAND

1. Case before administration of Thyroid substance. 2. Appearance after 3 years' use of Thyroid feeding.

Dr. Thomson is an expert in the study of Cretinism. He points out that the older a Cretin is the more difficult it is to remove the defects produced by imperfect development of the bones; this, however, does not extend to the brain, the intelligence gradually quickens, and the person becomes quite alert, and the power of acquiring knowledge becomes normal. Contrast the perfect development of Dr. Thomson's case (Fig. 6), in the girl aged five when treatment commenced, also Osler's case (Fig. 5), as showing rapid and perfect growth.

of administration of the gland were introduced after the discovery of its value; the gland was first transplanted, then Murray used an extract of the gland subcutaneously. Next Hector McKenzie in London and Howitz of Copenhagen introduced the method of feeding; and we now know that the gland, either fresh, or as a glycerine extract, or made into tabloids, is equally efficacious in the cretinism of infants and the myxœdema of adults." "The results, as a rule, are most astounding, unparalleled by anything in the whole range of curative measures. Within six weeks, a poor feeble-minded toad-like caricature of humanity may be restored to mental and bodily health."[1]

Now to what is this extraordinary success due in the cure of cretinism and myxœdema? It is due to the undoubted fact that life is molecular as well as somatic. Every bodily organ has a special quality of life of its own, it is there to do a special work, the secretion of the gland as a whole is shared in and produced by all its parts, its very cells have impressed upon them the office of the complete organ; moreover, as I mentioned already, its substance possesses large cells of $\frac{1}{1400}$th of an inch in diameter, and in these, as little *ova*, Swedenborg says, nature deeply hides its spirits, as well as in the blood and fibre of the gland, and only gives it forth when its use is required. Hence the substance and expressed juice of the healthy gland, when administered to those in whom the gland is absent or functionless, yields up to their blood the essential secretion it requires to supply metabolic force sufficient to maintain the body in health. It is clear also that the secretion of the gland exercises a regulating and controlling force upon the bodily structures; this was shown in the case of a young lady who came under my care some years ago. This lady exhibited an extraordinary condition of the skin of the neck and breast, which were covered with hundreds of minute warts; these so increased as to cause her great uneasiness. Judging that this condition was due to cutaneous distrophy, I administered a few tabloids of thyroid gland, one daily, and within three weeks the whole crop of warts had disappeared, and the skin returned to its soft, healthy and normal appearance. Cretinism and myxœdema require continuance of thyroid feeding, because the glandular structure being either absent or shrivelled in the patient's own person, its secretion must be systematically supplied from the fresh gland, to maintain its metabolic influence on the bodily organs.

[1] Osler's *Principles and Practice of Medicine*, p. 843, 3rd edition.

And now lastly, with respect to the *Pituitary Gland* suspended in the sella turcica, at the anterior part of the base of the skull. This is also a blood vascular and nervous organ; but it is associated with what is termed by Swedenborg the "chemical laboratory of the brain," and is best considered in connection with certain functions of those great nervous organs, the cerebrum, cerebellum, and the cerebral ventricles. It is possible that my friend Dr. Rabagliati may therefore refer to the pituitary body in his paper on "The Cerebral Motion." My purpose with regard to it is to mention certain discoveries which have recently been made as to the extraordinary influence it exerts upon the growth of the bones, and its recuperative power on muscular action.

The gland itself consists essentially of two parts. An anterior portion, consisting of muco-glandular structure, developed in fœtal life from the buccal or faucial cavity; and a posterior portion, derived directly from the floor of the third ventricle of the brain itself and called the *Hypophysis*. The upper half of this nervous hypophysis, called the infundibulum, receives a quantity of fluid from the cavities of the lateral ventricles of the brain together with the secretion of the plexuses of those ventricles called choroid plexuses. This fluid passes through the infundibulum into the posterior or nervous portion of the gland, is there elaborated, is taken up by the veins and carried into the cerebral sinuses, whence it reaches the blood stream through the occipital vessels. A *duct* is said to lie between the two halves of the pituitary body, but this is doubtful; at any rate, the secretion of the anterior half is conveyed through another set of sinuses, the inferior petrosal, and thence into the blood stream.

Swedenborg says of this gland that "it is the meeting place of the higher and lower fluids of the body, which in that situation are mixed and endowed with fresh life for their several uses." The compound character of the gland lends itself to this function. But furthermore, like all the ductless glands we have described, it also is credited with the origin of the blood corpuscles. Swedenborg regards this gland as the highest of the organs in the preparation of the purer blood stream: he says "two orders of fluid are passed through the pituitary body, one from the extremities of the nervous hypophysis, the other from the ventricles and choroid plexuses; the resulting union is the real *white blood*, capable of expansion, compression, elastic, divisible and light."

Photo, Stephen Paget, F.R.C.S.]

Fig. 8.

[*p.* 98

CASE OF MYXŒDEMA, FROM LOSS OF FUNCTION OF THYROID GLAND

This case was treated by Dr. Arthur Davies at the Metropolitan Hospital, London, with Thyroid juice.

Photo, Stephen Paget, F.R.C.S., Eng.] Fig. 9. [*p.* 99

CASE OF MYXŒDEMA, FROM LOSS OF FUNCTION OF THE THYROID GLAND

1. Before treatment. 2. After treatment.

This case was treated by the celebrated Pasteur with Thyroid sandwiches at the Middlesex Hospital, London, and, with Osler's and Davies' cases, was one of the first treated in this country after Sir Victor Horsley's discovery.

Now, recent investigation has confirmed the dual character and office of this gland. The posterior half seems more associated with muscular metabolism and stimulus than the anterior. For example: From a paper, contributed to the *British Medical Journal* of December 4, 1909, by Dr. W. Blair Bell, he says, "An extract of the posterior part of this gland has great therapeutic value in intestinal paresis, in uterine atony and nervous shock; the parts influenced by the extract being the muscular structure of the heart and blood vessels, the muscular coat of the intestines and notably those of the uterine walls." The anterior half of the gland, he says, has no such action.

But within the last few years it has been discovered that the other portion of this gland, the anterior half, exhibits in certain obstructed and hypertrophied conditions, a most extraordinary influence upon the growth of the skeleton. My attention was first directed to this fact, by hearing a series of papers in the Anthropological Section of the British Association at Belfast some years ago, when it was shown that the abnormal and increased size of certain of the bones of the face (the maxillæ), and of the hands and feet, and others, giving a deformed and monstrous appearance to the bodily outline, was invariably associated with, either disease, or obstruction of this portion of the pituitary body. This disease is known as *Acromegally*. But further, in these papers, especial stress was laid, *not* on disease of the organ, but on its hypertrophy or enlargement, as being the direct cause of *Giantism*, in which *all* the bones of the body were *symmetrically* increased in size, the subjects thereof becoming giants of seven, eight, or nine feet high. In these cases after death, it had been found that the pituitary body had been three or four times larger than normal, and that the sella turcica in which it rested was proportionally enlarged. Upon this bony increase Osler remarks, "The extraordinary frequency with which the pituitary body is involved in these affections lends weight to the view that it is, in the words of Woods Hutchinson, the *growth centre*, or, at any rate, the proportional *regulator* of the skeleton."

I would say, however, that the truth is that *all these glands* are trophic or growth centres, regulators of growth, and the pituitary especially so, from its contact with the brain, which is the primary seat of that spirit which is directed by the life of the soul.

In conclusion: I think sufficient evidence has been advanced to justify the statement with which this paper

began, that Swedenborg by his wonderful deductions anticipated many of the pre-eminent offices of these ductless glands, which the medical profession of to-day are only beginning to discover. It appears to me that the physiological investigation of the last fifty years has tied itself more to the materialistic than to the vital line of research; the attempt to resolve living function by physicochemical means alone, rather than from the aspect of man as the recipient of an organizing life from a *Divine Architect*, to trace that life in its descent through instrumental causes to its origination of cell, tissue and organ; a *designing* and *discriminating* life, *always purposeful*, *determining* special forms and structures, and so co-ordinating every viscus with its function, as that the body should become the physical transcript of the man who was designed to use it.

Let me add that if Swedenborg with the knowledge of anatomy he undoubtedly possessed, so far succeeded by his method of investigation, why should not the same method be successful in more modern hands; therefore we would enter a plea with the scientific medical profession for a more general, need I say impartial, examination of his anatomical and physiological writings, nor do we scruple to express our belief that their present resources will be augmented and enriched by a study of Swedenborg's scientific works especially those on the *Animal Kingdom*, the *Economy*, and the large work on the *Brain*.

ON THE MOTION OF THE BRAIN, WITH SPECIAL REFERENCE TO THE VIEWS OF EMANUEL SWEDENBORG (1688–1772)

By A. Rabagliati, M.D., of Bradford.

As my time is very limited it will be necessary for me to read a very condensed paper, which will have to be put into the form of Propositions, without setting forth the proofs of their truth, so voluminous is the literature of this subject. But I must premise that all of Swedenborg's ideas must be understood under his doctrine that "there is a God who is a Creator, and that God is the author of the human soul. And that He made the living soul to be creative in its own finite sphere. And further that the soul in order to embody itself, under God immanent, made the brain, which is thus

the anthropo-plasm of the human frame on earth. The brain from its first principles, conceived through the divine wisdom, by the soul in it, all the details of its own form, fitting it to be the abode of the mind in all its faculties."

These words of Dr. Garth Wilkinson I accept as explicative of the view of Swedenborg, and of the true view of nature (at least with qualifications), but I feel compelled to widen their scope and significance; for I do not see why they should be limited to the human frame and the human soul, and not made to include the animal body and the animal soul such as it is, or even the plant frame and plant soul; or finally why even the inorganic world of material substance in all its forms, with its indwelling soul of gravitation or attraction, should be excluded. If I am made to see an anthropo-plasm in the human frame, I also see an equino-plasm in the horse's frame, a canine and feline plasm in the dog's and cat's frames, an elephanto-plasm in the elephant's frame, a vulpine in the fox's, and an ursino-plasm in the bear's, and so on. From this point of view, which is mine, and in which I humbly agree with Swedenborg, and with the form in which I imagine that he would put his views were he living now, all the tissues of the body are alive, and they all heave and move through the form of life which animates them, each species and variety of that life being a species or variety of the one universal, omnipotent, eternal, ubiquitous energy by which, according to Herbert Spencer, all things do consist, and which, in Swedenborg's view, as also in mine, emanates from God. Obviously this view is not limited to organic and organized structures, but is wide as the earth and the universe, including inorganic things also. When therefore Swedenborg claims for the brain its own animatory motion, he is claiming no more and no less than he is entitled to claim for all things and for all structures—no more, I mean, in principle, although of course in quality or degree there are the greatest possible differences. We are compelled to invent a new terminology for our new ideas or for our new phases or varieties of old ideas; and for my part I regret this very much, since the human mind objects to being disturbed, and much dislikes the ways and the methods of innovators who cannot be induced to keep quiet or to let it alone. And yet what is one to do? If all things are procreations of energy or dynamic, must we not say so and call the energy by its name? If we want to speak of we energy that wraps itself up in material substance, are we not compelled to speak of hylo-dynamic? If we want a

term to signify that all things and structures respond to their proper stimuli, must we not speak of response-energy or apameibo-dynamic? If we want a term to express the action of the chemical power or of the electric power, must we not speak of chemico-dynamic and of electro-dynamic? How are we to help it? Or are we not compelled to introduce the term bio-dynamic when we require a term for the combined power of plant and animal life? Or phyto-dynamic when we want to designate plant life and its power? Or zoo-dynamic for animal life? Or anthropino-zoo-dynamic if we require to refer to the power of human life? How can we avoid it if we wish to have a terminology which is at once expansive and complete so far as it goes, and which proceeds on a uniform plan? The necessity may be a very regrettable one, but it is a necessity from which there is no escape, from the moment when we have seen that the universe is built on a uniform plan. All things being incarnations of energy have what appear to be their own proper motions, but which only *appear* to be so, for in reality they are the manifestations of the indwelling power of that phase or form or species or variety of the one universal omnipotent and eternal energy by which all things do consist, which animates them, and without whose continual animation they would cease to be. Swedenborg's animatory motion of the brain, then, is only the claim for the brain of its own special form of motion or species of the one universal energy as manifesting itself through that structure, which he is entitled to claim, and which we are entitled to claim, for all structures and all tissues and all things. It is a particular case of apameibo-dynamic. In speaking, indeed, of the little cortical parts which he termed corcula or little hearts and cerebellula or little brains, Swedenborg perhaps forgot for the moment that *all* tissues are alive and have each their own proper (apparent) motion as exponents of the one universal energy; and the critical reader may find other ambiguities and possibly inconsistencies in his language also; but Dr. Garth Wilkinson's statement furnishes the true explanation of his words.

As regards the motion of the brain, Swedenborg's claim to distinction rests on his having shown, 140 or 150 years before science discovered the fact, that the motion of the brain is synchronous with the respiration, and not with the action of the heart and the circulation of the blood. This is really, when we come to think of it, a most remarkable achievement. If we were asked to name another man

who had been able to anticipate scientific discovery by anything like this length of time, we should find it very difficult to name one. The nearest approach to taking up such a challenge would be made by naming some of the chemical inquirers who, seeing the law of the composition of certain organic chemical compounds, predicted—and predicted successfully—that certain other compounds belonging to the series would probably be discovered in the near future, although they were not known to exist at the moment of the prediction. Perhaps some will think of the confident prediction that a new planet or some similar cause would be found to exist, in order to account for the inexplicable, although orderly, disturbance which interfered with the accuracy of certain physical and astronomical calculations, and which prophecy was verified by the discovery of the planet Neptune. These instances do, I think, belong to the same class of facts as that which enabled Swedenborg to anticipate by 140 or 150 years the discovery that when the internal carotid artery entered the foramen lacerum, it at once altered the rate of its pulsation from seventy or eighty beats a minute down to from thirteen to sixteen or eighteen a minute, and that the brain's motion itself synchronized, not with the cardiac circulation, but with respiration. The anticipation or prophecy may be of the same order as the chemical and physical and astronomical ones just referred to but it seems to me to be one of a more extraordinary character. We can appreciate the course of reasoning which said, "these chemical series are built on certain plans; certain elements or radicles enter into the ascending range of the series in certain ascertainable and orderly ways: it is almost certain therefore that further inquiry and effort will enable us to construct other chemical compounds which will take their proper place in the orderly ascending series." And when in a short time intermediate places are filled by the constructive synthesis and insertion of such anticipated bodies, we are not surprised. And still less perhaps are we surprised at the speedy discovery of the heretofore unknown and unrecognized planet as the cause for a known disturbance of the laws of hylo-dynamic—but this anticipation by Swedenborg of the discovery, not that the brain had a motion—all parts of the body surely had, and have, their own motion—but that the motion of the brain should be synchronous with the respiration and not with the cardiac circulation—this anticipation, I must confess, fills me with a surprise which becomes ever greater and not less, the longer I reflect on it.

In course of time, indeed, the surprise has become amazement, when I reflect, first, that the discovery was made at all, and, second, that it was made all that long length of time before science in her slow leisureliness was impelled to take the trouble to rediscover it. And lastly one cannot help being till more amazed when there is forced on one the reflection that, striking as the discovery is, the full bearings of it are by no means realized now, nor apparently are they likely to be so for many years to come. If they were realized, I think myself that it would be found that altering our physiological conduct in accordance with them—for what is the use of a physiological creed that does not affect physiological conduct?—it would be found that altering our life in accordance with them would add many years, five-and-twenty perhaps, and possibly more, to healthy, happy and efficient life. This is a practical implicate, or would be if it were true—and I think it is true—of a very important and striking character, following in the wake of a discussion which many may feel disposed to sneer at as metaphysical or transcendental. If I apologize for introducing these considerations, my apology must consist in this: that I feel I have absolutely no option in the matter. The method of study by which Swedenborg was able to anticipate this discovery by so long a time is one which I think ought to be more frequently adopted by science. We know it very well, it is true, under the names of induction and deduction, but we do not use it so much or so often as we ought. The facts discovered by science in the eighteenth century, when Swedenborg lived, were exceedingly numerous; they became much more numerous in the nineteenth; and they are overwhelmingly numerous now. His method was rather to attempt to understand and to declare the meaning and significance of the facts already known than to add to them. Even when he might have used observations of his own, he seems to have put restraint on himself and to have preferred to make use of the observations of others. This method has the great advantage that it tends to obviate controversy and to save time. For when we advance facts not discovered by ourselves and strive to see their meaning, our attitude of mind is calmer and more judicial than when advancing new facts discovered, or alleged to be discovered, by ourselves. It is the attitude of mind of the philosopher rather than that of the scientific observer, not but that the scientific observer always is, and ever must be, a philosopher also if he only knew it. It is true that science has suffered so much, or

believes herself to have suffered so much, in the past from the assumptions of philosophy and theology, that she is very chary of entering on either of these domains herself. At least she says so. But the curious thing is that she has not avoided the putting of her propositions in philosophic form; only it has been, from the point of view of a mind like Swedenborg's (and, I am sorry to add, of my own) a perverted form of philosophy, which has assumed that gravitation is the property of matter, that physiology depends on anatomy, that *e.g.* the physiological function of the liver to secrete bile depends on the structure of the liver, and that the physiological function of the brain to secrete thought, emotion, will and worship depends on the structure of the brain. It is, in fact, almost impossible to avoid putting scientific propositions in philosophic form; but plainly all that science is entitled to say on each of these three sets of facts without transcending her province is that: (1) Gravitation and material substance are proportionate to one another, co-ordinate with one another, correlated to one another and vary as one another in an orderly way; (2) The secretion of bile varies with the structure of the liver co-ordinately, proportionately, simultaneously, successively; and (3) So with the thoughts, emotions, and expression of the will, they vary with the structure of the brain and nervous system also, co-ordinately, proportionately, simultaneously, successively. And philosophically it may be true that substance is procreated by gravitation in order to manifest its existence, that the need to secrete bile is the reason and cause why the liver exists, and that the necessity that thought, emotion, will and worship should have a means or medium of expression is the cause of the procreation of the brain and nervous system. Now although from time to time Swedenborg's language is obscure, it seems to me that on the whole he adopted the latter explanation, and so far as I know my own mind I most certainly do. So much seems absolutely necessary by way of preliminary, although I much regret the necessity and the spending of the time required to state it. Swedenborg's method of inquiry then was the double one of first making a careful induction of all the facts bearing on the question under consideration, and, second, of a true deduction, or deductions, from the facts. Of late it is true we are being warned against the use of such a method of inquiry. A recent writer,[1] in discussing the functions of

[1] Dr. Pembrey, in *Recent Advances in Physiology and Bio-chemistry* (1906), p. 575.

certain glands much less elaborate in function and intricate in construction than the brain, says that "purely anatomical reasoning in such cases leads astray." Granted. But, on the other hand, a complete realization of *all* the facts, or of all the essential ones—and among them, of course, the purely anatomical ones—must lead to sound conclusions regarding them. In Swedenborg's case, at any rate, it appears to have done so, for many of his conclusions are being to-day found to agree with the newest discoveries of science in the domain with which he dealt. And I personally shall be much surprised if our successors and compeers in the twentieth century continue for much longer to be satisfied with the interpretation of nature which obsessed men in the latter half of the nineteenth century, when they accepted the suggestion of a common ancestor as the explanation of the similarity of the construction of the bodies of men and animals, and in the moral and religious sphere manifested that bias against creation which did not hesitate to write itself down agnostic. Which, however, has not hindered creation and the creative process from going on exactly the same as before. Swedenborg's method was entirely different from that, and so was his theory. Let us see if it is not fuller, richer, rounder, and more complete. He had a comprehensive view of the facts known in his day. The slightest reference to his writings shows us this. He was a comparative anatomist also, as such reference shows us. What did he say?

1. He said the brain has its own animatory motion. Well, this is not surprising, for the brain's motion is only a particular case of the general statement that all the tissues of the body are alive, and so far as I can see, it is a particular case of a statement more general still, viz. that all nature is alive; that inanimate things are alive because animated by energy or dynamic.

2. He said this animatory motion of the brain is synchronous with the respiration, and not with the cardiac and blood vascular or sanguineo-vascular circulation. The cerebral and cerebellar movements are at the rate of from twelve to twenty times a minute, although the movement of the common carotid artery from which the internal carotid artery springs is synchronous with the cardiac action and moves normally at the rate of from sixty to ninety times a minute.

3. He said that the external carotid artery retains its cardiac synchronism throughout its whole distribution, and as we know that it is distributed to the face and to the membranes of the brain, the circulation in these parts is

synchronous with the cardiac circulation and not with the respiration. This is apt to be a little confusing, since it compels us to realize that the circulation in the brain membranes is at a different rate from that in the brain itself.

4. He said that the circulation of the blood in the internal carotid artery when it entered the foramen lacerum in the temporal bone at once took on the new rate of movement and synchronized with the respiration.

5. His knowledge of comparative anatomy enabled him to suggest that the arrangement of the *rete mirabile* in the lower animals seemed to have a purpose similar to the alteration of the rate in the internal carotid artery, since it breaks the force of the circulation to the delicate and peculiarly constructed brain and cerebellar matter. The *rete mirabile* is an arrangement by which in many animals the carotid and vertebral arteries break up into a large number of branches so as to break the force of the blood circulation.

6. He explained the meaning of the presence of the fluids of the ventricles of the brain, of the cerebro-spinal fluid between the membranes of the brain and in the sheaths of the nerves, of the fine spirituous fluid in the substance of the nervous tissue itself, and of the circulation of these fluids, in ways long in advance of his time, and some of which will probably be found to be correct in the future, although science has not yet accepted these suggestions and explanations as true, or at least not as entirely true. I shall have something more to say on this point later.

7. He said that although there were (and are) anatomical channels by which the cerebral fluid and the cerebellar fluid might to some extent intermingle—as by the passage from the third cerebral to the fourth cerebellar ventricle, and although the cerebrum and the cerebellum heave and subside simultaneously, still on the whole the cerebral fluid was kept distinct from and unmixed with the cerebellar fluid ; and in this statement, so far as I am able to see, the latest conclusions of modern science appear to agree.

8. It follows from this conclusion, among other things, that the valve of Vieussens—which lies at the entrance to the fourth or cerebellar ventricle—acts so as to close the opening into it, and so tends to prevent the intermingling of the two fluids. In this also, so far as I am able to read the evidence or to understand it, Swedenborg's view is correct.

9. His method of inquiry and the conclusions at which he arrived appeared to him to demand that some foramen or foramina must exist at the base of the fourth ventricle

through which the cerebro-spinal fluid is discharged from the ventricle; and they also seemed to him to require the presence of a channel from the fourth ventricle into the spinal cord. Since Swedenborg's time the discovery of the foramen of Magendie meets the former requirement, and the central canal of the spinal cord the latter.

10. Swedenborg said that besides acting as the organ of ideation, emotion, will and worship, the brain had for one of its chief functions the manufacture of a fine lymph or spirituous fluid whose office was (and is) to enrich the blood and to help in the formation and elaboration of the red blood corpuscles. This is not yet accepted by science, but there is a good deal of evidence for it notwithstanding, and it is rather difficult to explain many physiological and pathological cerebral phenomena without having recourse to it. In many cases of hysteria so called, in many cases of insomnia, and in many cases called neurotic or neurasthenic for want of a better name, a peculiar form of anæmia is found to be present. The patient has a yellowy, greeny-grey colour, with very often a slow pulse, dilated pupils, and constipation, although occasionally the symptoms are the reverse of these, and the pulse is quick and the temperature high. As showing the difference of opinion in the medical profession regarding this state, it is variously named hysteria, neurosis, neurasthenia, brain-fag, anæmia, rheumatic neuralgia, or neuralgic rheumatism. The subject is highly controversial, and justice cannot possibly be done to it by treating it as an incident arising in the consideration of another question; but undoubtedly one of the means by which we might be able to understand the condition better would be a discussion of the question whether alterations in the cerebral ventricular fluid occurred in its course. The mental disturbances and perversion which occasionally accompany the neurasthenic or anæmic conditions, in consequence of which patients have not infrequently to be sent to asylums, ought to be taken into account in attempting to explain the state. And so should the occasional termination in coma and death, three instances of which have come under my observation in the course of practice. Disturbances in the formation and secretion and in the motion of this fluid offer a very likely explanation of these psychic changes, and render Swedenborg's view more probable and rational. Certainly exercises are of great value in treating the condition, and it is by exercises that to a large extent the circulation of the cerebral and cerebellar fluid is effected. I find no references to the

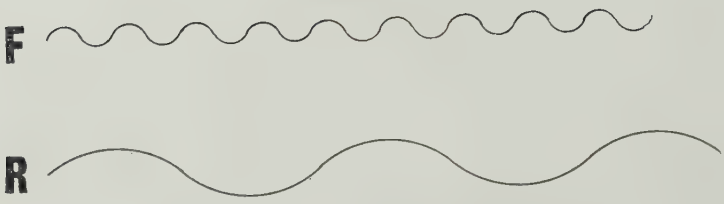
circulation of this fluid in Prof. Morat's *Physiology of the Nervous System*, nor in *Recent Advances in Physiology and Bio-chemistry* edited by Dr. Leonard Hill (both 1906), but in his work on *The Brain and Spinal Cord* Sir Victor Horsley boldly says that the brain ventricles are lymph cavities, in which opinion he agrees with Willis, an anatomist who wrote about a hundred years before Swedenborg's time. I have called this a bold opinion, because it takes no account of the fact that in the brain this lymph, if such it is, is secreted from what are known as the choroid plexuses both in the lateral ventricles of the brain and in the fourth or cerebellar ventricle, while lymph in other parts of the body has no such structures set apart for its secretion. Neither does it take any account of the fact that the chemical composition of the fluid of the lateral ventricles is different from that of the fluid of the fourth ventricle, compounds of soda preponderating in the cerebral fluid, and compounds of potash in the cerebro-spinal cerebellar. Further, while the fluid of the lateral ventricle finds its way like lymph into the venous circulation through the infundibulum and the pituitary body, that of the fourth ventricle seems to be expressed between the meninges of the nerves and to become the cerebro-spinal fluid. These facts do not seem to have received adequate consideration. While I admit that the fluid of the cerebral ventricles is lymph, or mainly lymph, the cerebellar fluid seems to have another function, and it is difficult to agree that if the cerebral fluid is lymph it is lymph only and has no other function. It is also difficult to reconcile this explanation of the cerebral and cerebellar fluids as lymph fluids simply with Horsley's own suggestion (on page 88 of his *Functions of Brain and Spinal Cord*) that there is a true homology between the gullet of the invertebrates and the spinal canal of the vertebrates. This is, of course, only a suggestion of his, but even as such it is scarcely compatible with the view that the fluid of the central canal is lymph, and lymph only, and that the central canal itself is neither more nor less than a lymph cavity. A better understanding of the meaning of the neurenteric canal would probably throw light on this suggestion, but there is no time to go into this now.

Another objection to the theory that the cerebral and cerebellar fluids are lymph only lies in recent experiences, when surgery, with the interference which has characterized her in the latter half of the nineteenth century, has not hesitated to excise organs whose function was not apparent,

or even when, though apparent, it was imperfectly understood. In such cases excision of organs has been followed by ill effects due, it has been thought, to the loss of the internal secretion which it is part of the function of such organs to supply to the blood. This objection goes indeed towards widening even the view taken of the lymphatic circulation itself, and to make us suppose that besides restoring to the blood unused nutritive material, lymph may have for one of its functions the furnishing of some internal secretion to the blood. I allude to excisions of thyroid glands, ovaries, and other organs. It is an interesting fact, though few persons seem to have thought of it, that the ordinary view of the lymph-circulation as a process by which unused materials of nutrition are returned to the blood so that nothing should be lost, does not account for the existence of the lymphatic glands, although it does account for the existence of the lymph-spaces and lymphatic vessels. Why should the elaborative function of the lymphatic glands be necessary? What do the lymphatic glands do? If the connective tissue, besides being recognized as binding or uniting tissue, were also recognized as a tissue for the secretion of lymph, we should have a more adequate knowledge of it as being what it is really: the largest secreting gland in the body. And it is a still more interesting and curious fact that in this question, which has long and profoundly interested me, although science does not recognize this function of the connective tissue, the great Swedenborg seems to have anticipated it by something like 170 years. If the connective tissue is really the greatest secreting gland in the body, and if, as is the case, science does not recognize this fact, the situation is certainly remarkable.

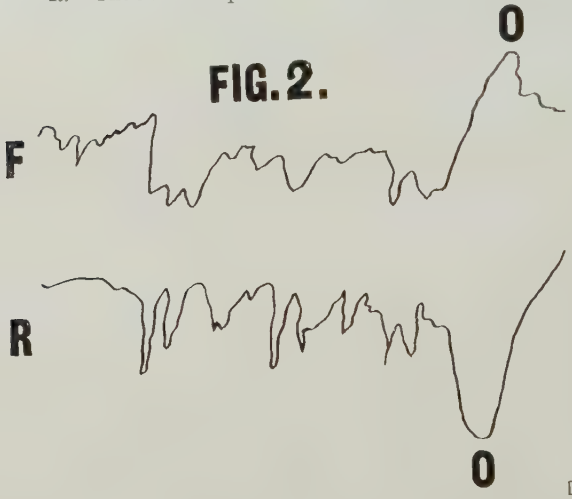
11. Swedenborg appears to have held that not only was the motion of the brain synchronous with the respiration, but that it also alternated with it, *i. e.* that the heaving of the brain synchronized with the falling of the lungs or with expiration, and the falling or recession of the brain synchronized with the heaving of the lungs or with inspiration. Now for a long time the explanation of this gave me much trouble, because it is well known that all the expulsive or centrifugal actions of the body coincide with contraction of the transverse elements of structure, which again is synchronous with expiration and also with subsidence of structures. This is true for secretion, as of bile or pancreatic or salivary juice, and for excretion, such as defœcation, urination, and for parturition, the last stages of all of which physiological functions synchronize with expiration and also with subsidence

FIG. 1.



F. The rate of pulsation in the fontanelle.
R. The rate of respiration.

FIG. 2.



[*p.* 111

F. The curve of the fontanelle ending in prolonged cry.
R. The respiratory curve during the same period.

of the organs concerned. How then, the question came to be—how then should the cerebral expulsive action of the cerebral ventricular fluid synchronize, not with expiration, but with inspiration? Could it be true that while other organs subsided with secretion and excretion and expulsion generally, the brain alone should heave or rise when the cerebral and cerebellar fluids are emitted? To answer this question we must recollect that—

12. Swedenborg held that the brain heaves with expiration and subsides or recedes with inspiration, which is exactly the reverse of what we should have expected, and is exactly the reverse of what occurs in all other similar actions in the body. He describes how the brain rises into the foramen magnum coincidently with expiration, whereas we should have expected it to do so coincidently with inspiration and to have subsided with expiration. The results of experiments do not seem to be quite uniformly and quite universally in accordance with this conclusion, but they are certainly preponderatingly so. I therefore assume that on the whole Swedenborg was correct on this point. But the difficulty was to account for it. The accompanying diagram from Salathé (fig. 2) shows this remarkably well, the respiratory curve falling while the cerebral curve rises. In fig. 1 the upper line *F* shows the rate of pulsation in the fontanelle, and the lower the respiratory rate *R*. The upper is more rapid, and the lower slower.

In fig. 2 the point *O* corresponds with a prolonged cry, and here the curve of the fontanelle noticeably rises, while the respiratory curve as noticeably falls.

The difficulty, however, is cleared up by further examination, which discloses the fact that the diaphragm rises with expiration and falls with inspiration. Its action must therefore be to press up the bases of the lungs, for these rest on the diaphragm, and at the same time to press up all the thoracic viscera, and coincidently to make the brain heave or rise also, as Swedenborg said it did, and does, into the foramen magnum. But now see what this involves—

13. When the brain heaves and rises up in this way with expiration, obviously the effect must be to constrict the ventricles of the brain and cerebellum, especially in the lateral direction, and to drive forward the fluid contained in the ventricles. This being so, it follows that—

14. The fluids of the ventricles are driven out coincidently with expiration, as happens with all the other expulsive or centrifugal actions of the body, with secretion, excretion,

parturition, and now, as we see, with the emission and circulation of the fluids which seem to act as the medium of conveying thought, emotion, will and worship, on the one hand, and of being sent out to enrich the blood on the other.

15. According to Swedenborg, the fluid of the cerebral ventricle passes down by means of the third ventricle to the infundibulum and the pituitary body to be taken up by the cerebral veins, namely the cavernous and inferior petrosal sinus, and so to be conveyed to the jugular and subclavian veins, which also receive the thoracic duct. In the end, therefore, the fluid of the lateral and third ventricles finds its way into the venous blood before it is carried to the right side of the heart, exactly in the same way as do the contents of the lymph duct, and of the thoracic duct—the latter of which contains, of course, much of the products of stomachic and intestinal digestion. In this way we see how the expulsive action of the brain itself rises in the foramen magnum at the same time, and does not fall or subside as we expected it to do.

16. The choroid plexuses—which consist of fine blood vessels laid out on folds of the pia mater, or finest of the brain membranes—have their function explained, which is to secrete from the blood the fluid of the ventricles whose functions are as have been described.

17. The cerebellar fluid does not take the same course as the cerebral fluid, but is driven along between the layers forming the sheaths of the nerves and becomes the cerebro-spinal fluid, and also the fluid which enters into the central canal of the spinal cord.

18. There is a choroid plexus in the fourth ventricle also for the secretion of the cerebellar fluid from the blood of the vertebral artery, just as there are choroid plexuses in the lateral ventricles.

19. The structure and functions of the pituitary body are displayed by Swedenborg in a masterly way. He shows that there are two parts of the gland: an anterior and a posterior. In the posterior lobe muscular fibres abound, and there are arterial vessels in the anterior lobe of the gland; and both the muscular fibres of the posterior lobe and the arterial vessels of the anterior are innervated by some nervous branches, whereby they are contracted and expanded in alternate periods, imparting thereby a light motion to the whole of the gland. He says that the motion of the gland is derived from the muscular fibres in the posterior lobe which are innervated immediately by the brain through

animal spirit conveyed into the gland through the process of the infundibulum. And then he adds, "the gland receives its fibres from the brain, perchance also from the branch of some nerve, and does not create its own fibre." Modern science does not appear to have settled what the functions of the pituitary body are, but Rathke (1838) showed that the infundibulum and one part of the pituitary body were developed from the brain, while the other part was formed as a diverticulum from the buccal cavity or mouth. This is most interesting, and must have a deep signification if we could read it. I have for some years now, been greatly struck by the fact that although the mouth is now the entrance to the digestive tract, it is not developed along with the alimentary canal, but on the contrary is developed from that layer of the embryo which forms the nervous system; and I have used this fact of embryology as an argument that we, the higher animals, are intended to take command of that which goes into the mouth, so that dumb physiological voices are always calling out to us in their silent way that we have to keep the body under, and that if we do not keep the body under it will assuredly keep us under. That one part of the pituitary gland therefore is developed along with the buccal cavity appears to be a very significant thing; but its full meaning I really do not pretend to have gauged. In this, however, I am in good company, for Ecker (1853) calls the pituitary gland an enigmatical organ, and in this Virchow (1857) follows him, while Sapolini (1879) says it constitutes a problem the solution of which we do not possess; in short, he says that the gland for us is still a myth. In an attempt to unravel a puzzle in which men of this distinguished rank have avowedly failed, I perhaps ought not to be ashamed of my own failure, although I regret it. Swedenborg's account of it is that it is a place of exchange, a mart, where the medullary substance of the brain meets the tissues and vessels of the body, and where the spirit of the brain is finally prepared for a marriage with the lower essences of the body. The pituitary gland would thus seem to be composed of brain substance on the one hand, and of tissues of the body on the other. It appears to me, I must say, that in this particular also Swedenborg showed a remarkable insight, since he actually anticipated what was not discovered by science as a fact for a very long time afterwards. Dr. Tafel devotes sixty-one pages of notes in his learned work on the brain to the motion of the pituitary gland and the infundibulum.

As to Swedenborg's statement that the gland does not

create its own fibre, this is one of those passages in which his language appears to me to be ambiguous. He does not seem to have risen to the full realization of the spirituality of the message which he had to convey. I suppose he means that the fibre is derived from the brain and not from the gland itself; but inasmuch as things do not make powers, in neither case would it be proper to speak of the fibre being created either by the brain or by the gland itself. What I imagine he meant was that the power of life, or what in modern terminology I propose to call zoo-dynamic, procreates the gland fibre through the intervention of the brain, and not directly. In my view God alone creates, and I take it that this was Swedenborg's view also; while zoo-dynamic or any other species of the universal energy might be said to procreate. In no case, however, can material things like the brain or gland create anything. In any event comparative anatomy will no doubt throw light upon the meanings of this gland, as it will show also the various devices adopted by zoo-dynamic, under the direction, quite unconsciously to itself, of the spiritual power, to effect the various purposes for which it is intended. Swedenborg says, in a word, that the pituitary gland secretes a fluid of three orders, a first, second, and third order, whose function is to enter the blood and to enrich it. If the fluid of one of these orders is lymph, it seems to me somewhat doubtful whether other functions are not also subserved by the other two. The blood-enriching function of the cerebral and cerebellar fluid is not admitted by science, which looks upon these fluids as lymph only. He also says that the importance and nature of the pituitary gland "can never be known from the gland alone, but only when it is regarded in connection with the parts that precede and follow it, and thus when it is considered from them." This statement seems to me to dispose of a criticism formerly mentioned as having been directed against Swedenborg and his method of inquiry.

20. I hope I may be permitted to make one personal remark, which is this: All through the writing of this paper I have been wishing that I could have referred point after point as it has arisen to the learned editor of Swedenborg's work on the brain. No more comprehensive *résumé* of anatomy and physiology on this subject has appeared in modern times than Dr. Rudolph Tafel's. His death has been an immense loss to science and to the history of physiology in this matter. And no one seems to have arisen to take his place. Consequently there may well be more recent information on some of the points referred to in this paper than I

have been able to bring forward; but a man occupied with the practice of medicine has little time to call his own. I could not help some reference to the great loss which we sustained in Dr. Tafel's untimely death.

Lastly, I should like to make some remarks about Swedenborg's method of inquiry. It was a splendid example of the combined methods of induction and deduction. All the facts, not merely the anatomical ones, and not merely the physiological ones, are marshalled by a masterly mind, which thence derives its deductive inspiration, a process which enabled him to anticipate by no less than 150 years the rate of motion of the brain and some of its significance. Writing some thirty years before Priestley discovered the existence of Oxygen, he yet seems to have anticipated the discovery of the changes which must take place in the appearance of the blood by its passage through the lungs. So true is it that he who is best acquainted with the knowledge of his own day is the best prophet of what the immediate future is about to bring forth.

Since his day the fact that the tissues of the body—not only the cerebrum, but *all* the tissues—move synchronously with the respiration as well as being moved with the cardiac circulation, seems to have been generalized, as Dr. Garth Wilkinson pointed out. That Swedenborg did not anticipate this generalization must be put down to the limitations of human nature; but observations of his, which I have not time to particularize, almost seem to show that he dimly foresaw and adumbrated even this.

Incidentally, also, it appears to me that we see from Swedenborg the true sphere of experiment in organic affairs. When the inspirational deduction has been made, then it is necessary to verify it; and sometimes an experiment, as for example injecting, say, the infundibulum or the posterior lobe, or the anterior lobe of the pituitary body, with a fine percolating injection will enable us to test the truth or adequacy or inadequacy of our deduction. In point of fact, this has been done regarding the infundibulum and pituitary body; but so fine and intricate are the structures, and so dependent are their arrangements on one another in the living animal, that the results are not satisfactory. Further inquiry will no doubt settle disputed points. The unfortunate fact is, that no one seems to care sufficiently about the matter to take the trouble to inquire into it. Science, unfortunately, has considered that powers are out of her range, and yet she has insidiously assumed that powers depend on things, and has ignored the possibility that things may depend on powers.

In my opinion, as I have no doubt in Swedenborg's, were he living now, the latter is the only true view. But science, refusing to deal with this question, and yet insidiously settling it in the wrong way, has assumed that constant succession is the same as causation, and that constant concomitance is the same as causation also. Neither of these propositions is true; otherwise, day would be the cause of night and night the cause of day, on the one hand; the hen would be the cause of the egg and the egg the cause of the hen; the father the cause of the son and the son the cause of the father. On the other hand, if constant concomitance were the same as causation, science would be justified in her insidious assumption that matter is the cause of gravitation, and that the tubercle bacillus is the cause of consumption. The true view of these successions and concomitances is, on the contrary, that day and night are the successive effects of a common cause, viz. the rotation of the earth on its axis and the manner of its behaviour to the sun; that alectorido-zoo-dynamic is the cause of the succession of the egg on the hen and of the hen on the egg; and that anthropino-zoo-dynamic is the cause of the constant succession of son on father and of father on son. These on the one hand. On the other, the true view of the constant concomitance of matter and gravitation and of the tubercle bacillus and consumption is, no doubt, that they are concomitant effects of a common cause, namely hylo-dynamic and zoo-dynamic respectively, these being in turn species of the universal energy by which all things do consist. The explanation is perfectly simple, and perfectly plain when once we see it; but simple as it is, it is wonderfully illuminating and instructive, preventing the need of haphazard and painful experiment, and filling the inquirer into nature and her methods with the illumination and the warmth and the adoration which flow from the realization that the universe is neither more nor less than varied incarnations of the infinite varieties of the one universal, omnipotent, ubiquitous and eternal energy by which all things do consist, and which proceeds from one universal, omnipotent, ubiquitous and eternal source, the Giver and Maintainer of all life. It was by this method of inquiry into the course of nature that Swedenborg was able to obtain his insight into the motion of the brain, and it will be by this method that his successors will achieve a further insight undreamed of now, in the course of which, I am firmly persuaded, humanity will be able to add twenty-five or more years to healthy, happy, and efficient life.

DR. MAX NEUBURGER, [*p.* 117
Professor of the History of Medicine, Vienna University

EVENING LECTURE

Dr. Rabagliati occupied the chair while the following Lecture was given on

SOME IMPORTANT ACCORDANCES BETWEEN SWEDENBORG AND MODERN PHYSIOLOGISTS

By Professor Max Neuburger, M.D.

What even the truest disciples of Swedenborg only ventured to hope for in a far distant future, has become in our own days a fact, a tangible reality.

Representatives of all branches of science, on both sides of the ocean, among them world-famed explorers, vie with one another in extolling Swedenborg as a pioneer in the most heterogeneous spheres, in searching out the influence of his ideas, in proving the wonderful accord of many of his doctrines with the principles and achievements of modern science.

Not only the printed scientific works of the Swedish Aristotle are studied and interpreted with the greatest interest by specialists, but the manuscripts left at his death have brought to light new mental sources for the living and for coming generations.

Each one endeavours to outbid the other in the scientific recognition of the northern seer, whose surprisingly manifold attainments were, till a very short time ago, a *terra incognita* for the great majority of learned men.

The International Congress, which is just now meeting at one of the places sacred to the memory of Swedenborg, embodies this newly-awakened fruitful striving, and signifies that the learned are beginning to be conscious of the debt of gratitude they owe to one of the greatest men the world has produced, in order that on the debit side of mankind's account one of the principal debts may at last be cancelled.

The International Congress signifies also homage paid to the Swedenborg Society, which to-day can look back with just pride on a century of successful effort, and which has laid the most valuable stone in the temple of fame of this eminent man.

I look upon it as a great, though undeserved, honour to be allowed to speak before such a highly esteemed society of some of the ideas of Swedenborg in the sphere of physiology, but I must confess that I enter upon the theme with great

diffidence, because the well-known masterly productions which Dr. J. J. Garth Wilkinson and the Rev. Dr. R. L. Tafel left behind them have treated the subject exhaustively on every side, and have appreciated the system of Swedenborg as well as the state of science of their time.

But just this last moment will continually give occasion to new supplementary observations, for the result of the comparison between the physiology of Swedenborg and that of any stated epoch must vary in the same measure as the ruling opinions concerning the functions of the human organism undergo changes from generation to generation.

How much the theory of vital processes has changed since the time when Wilkinson translated the *Œconomia Regni Animalis* into English, and wrote his preface, so full of deep thought, to this edition! While at that time striking differences existed between the physiological doctrines of Swedenborg and the science of his day, at present not a few instances of agreement in general and in special questions may be discovered; yes, it even seems as if the number of such instances grew with the progress of Biology. R. L. Tafel was already in a position to point out, especially in reference to the physiology of the brain, how often modern discoveries, in an astonishing way, confirmed those results to which Swedenborg had attained long before, with the help of a quite different method of work.

As I am now on the point of drawing attention to these remarkable coincidences in some of the chief cases, I must first observe that I shall confine myself principally to the final results which agree, and, on the other hand, ignore the philosophical foundation of the universal doctrines of Swedenborg; and this all the more as the latter are well known in your circle. Do not expect more than very elementary hints, which in many regards need to be worked out and corrected.

How far above his contemporaries Swedenborg stood and in what a clever manner he anticipated the development of physiology is recognized at once by every expert in opening his work on the *Economy of the Animal Kingdom.*

This splendid work begins in the usual way with the doctrine of the blood, but how totally different are the opinions that are here delivered, from those which the greatest physiologists of that and a still later period, held on the subject. The blood was to them nothing more than a dead fluid, in which one could demonstrate only a few chemical substances with the help of rude methods, while

nobody had the least idea how many secrets the apparently homogeneous blood-fluid hid in itself.

That Swedenborg went to the root of the matter is shown in the very first sentences of his work, where the following stands in an expressive manner: "The doctrine of the blood must be the first propounded, although it is the last that is capable of being brought to completion."

To-day we know, perhaps better than ever, how correct this conclusion is and what an immense content the doctrine of blood represents; for although we are far advanced in the knowledge of the chemical constitution and functions of the blood-cells, we are able to understand its marvellous reactive powers against toxines. New problems are arising every day, and the great number of investigators who devote themselves to the study of the blood shows how much is hoped for in this sphere in the future.

Swedenborg, who considered the blood on the one side as a connecting link between the organs, and on the other as a mediator between the body and the exterior world, took a surprisingly advanced standpoint in many of the principal problems, recognizing the complicated composition of the blood and the great number of its functions.

He not only knew that the blood forms the nutritive material, but he divined its relation to the atmosphere; he discovered, long before the professional physiologists, the vitality of the blood, and taught that it is continually in a state of being and passing away; he attached great importance to the chemical properties of the salts in the blood.

One really imagines oneself to be listening to a present-day author when reading in the *Economy* that the blood of every single organ possesses in consequence of its special assimilation special properties, that the blood of every species of animal is different, that the composition of the blood of the same individual changes under the influence of temperament, condition and age—all facts which the most recent discoveries have entirely confirmed. And just as the latest therapeutic consists in the restitution of the integrity of the blood, namely, in the form of the serum and organotherapy, so, Swedenborg holds, that the efficacy of remedies consists principally in restoring the blood to its normal condition. He says on this subject, "For this reason it is that the whole body is diseased when the blood is diseased, and *vice versa;* and that in the greater number of diseases it is sufficient to find a remedy for the blood alone to restore the body to health." This cursory analysis of

the first chapter of the *Economy* can only serve as an example of the abundant scientific anticipations to be found in the voluminous works of the great Swede. Do not fear that I shall proceed in the same way from chapter to chapter, my intention being merely to bring forward a few specially striking points of agreement between Swedenborg and recent Biology.

First, this fact must be duly emphasized, that before the middle of the nineteenth century probably no other author had such a clear idea of the life of the organism. That wonderful work, *The Animal Kingdom*, is the most sublime expression of how the harmonious co-operation of the parts of the body was mirrored in the mind of Swedenborg. By means of his well-known doctrines of Order and Degrees, Series and Society, he was enabled to perceive the mechanism of the human machine, to comprehend almost intuitively the problems that empirical investigation much later only gradually solved: the mutual relations of the organs, the strict centralization of the organism, the autonomy of single parts.

Such broad views have ruled physiology only since the time the composition of the body out of cells was recognized and since each bodily function was deduced from the activity of these smallest of living elements.

What we now call cells remained, indeed, hidden from Swedenborg; still, he knew that the organs and tissues are composed of small particles, which he deduced from the gland-like or cell-like *fibra simplex*.

It is true we find similar anticipations of the real matter of fact in the works of other investigators of the eighteenth century; but what raises Swedenborg far above these is the fact that he perceived in the smallest organic particles not only histological elements, but independent centres of forces endowed with individual life forming the source of all vital functions.

This highly important theory, which Swedenborg repeatedly speaks of, is exemplified by him in the different organs, the lungs, the liver, the spleen, the stomach, etc. And, quite in accord with our present views, Swedenborg comes to the conclusion that the functions of each organ are composed of the functions of its elementary particles, that the life of the organism represents the totality of the individual lives. Just in the autonomic activity of the smallest living particles is the greatness of the nature most revealed.

One of the most remarkable phenomena of the autonomy of the tissues and cells is their specific nutrition, the so-called

elective assimilation. Every cell-form takes out of the common nutritive material exactly what is necessary for its proper life, its specific metabolism. The liver-cells, for instance, demand other substances than the brain-cells, the muscle-cells other substances than the nerve-cells, and so forth. This wonderful physiological process is to be referred to the circumstance that each cell has its own specific chemical constitution, its own characteristic change of matter.

Now, it is highly interesting that Swedenborg not only occupied himself intensely with this subject, as is shown in numerous passages of both of his principal physiological works, but that he also held a theory very similar to the one adopted at present. Just as we do, he sees in the specific nutrition an active process or, to let him speak himself, "An invitation on the part of living elements"; as we do, he explains the specific nutrition by the specific metabolism of the organs.

As just now mysticism in the form of neovitalism is trying to intrude into the realms of physiology, the explanations of Swedenborg gain double value, being those of a man whom certainly no one will accuse of crude mechanical views. In the *Economy* he writes as follows: "While I have been dwelling on these stupendous mysteries of the animal kingdom and endeavouring to reduce its particular and specific modes of operation to a few general heads and these to one universal principle, the idea has offered itself of a certain equation of quantity and quality of the fluids pervading the system, and to which nature, as if for the sake of equilibrium, tends and aspires with all her might. But since in the body there is perpetual loss and restitution of equilibrium and rest, and consequently a change of equation, therefore, from this source results the diversity of the blood and the serum in the different viscera." In other words, the quantity and quality of the flow of the blood is regulated by the laws of gravitation; it is the consumption of matter which regulates the nutritive selection; it is the specific chemical constitution and metabolism which demand this or that element of the serum.

If we accept with Swedenborg, and in agreement with modern science, that chemical powers are continually active at the periphery, causing the attraction of the serum, the question naturally arises whether, along with the pumping power of the heart, these capillary impulsive powers maintain the circulation, or whether these latter exhibit proper movement; in other words, the actual question of the "vital" circulation. Whilst it has in general been firmly

held that the flow of the blood and the distribution to the organs of the materials brought by it originate in the impulsive power of the heart, a number of authors have in recent years expressed the view that an important, or even a chief part, of the mechanism of the circulation is due to cellular attraction.

It is in the highest degree interesting that Swedenborg, far in advance of his time, brings into consideration the problem of vital circulation, and arrives at a final result which agrees with the modern views. Like modern science, he holds that both factors, the impulsive power of the heart and the peripheral chemical attraction of the tissues, play a rôle, inasmuch as he makes the direction of the blood dependent upon the heart, but the quantitative and qualitative distribution of the material dependent on cellular attraction. The author states in several places in his *Animal Kingdom* that the blood is solely driven along in the aorta and large blood-vessels, but by no means either quantitatively or qualitatively distributed to the tissues. The plasma is not forced into the tissues, but is drawn in by the tissue itself. The heart, it is true, regulates the supply, but the quantitative distribution and qualitative selection in the process of nutrition is to be ascribed exclusively to the tissue-element itself. Without a knowledge of the sources of this tissue-attraction we can never understand the manifold phenomena presented by the change of matter.

In the specific nutrition a great part is played by the ramification of the blood-vessels, which vary extremely, as Swedenborg endeavours to prove, for instance, respecting the heart or the brain. He even says "each particular viscus of the animal body requires a particular study of its blood-vessels."

The organism presupposes the vital activity of its constituent elements, but demands, just as does the State, some internal mutual connection of its particles, an association and reciprocal dependence of the organs, a centralization, in order to secure a harmonious operation of the whole system.

Swedenborg discovered in a marvellous manner some functional relations of the organs, guided by his sagacious consideration of the anatomical connection, as well as by his doctrine of Order and Degrees, Series and Society.

The osmotic phenomena are of great importance. For the mutual relations of the organs Swedenborg recognized the permeability of the animal membranes and the circulation of

fluids through them, he studied especially the sap stream in the serous membranes, and taught, quite in accordance with modern views, that there is a perpetual loss and restitution of equilibrium, and therefore change of equation, as long as animal life continues.

In recent times researches tend very much to show the existence of a reciprocal influence of the organs, brought about by the products of their assimilation. Substances produced by certain organs and passing into the blood influence the functions of other neighbouring or distant organs, sometimes also the functions of the whole organism. Such an influence, for instance, the pancreas, by means of certain matters, exerts on the chemical activity of the liver; the spleen on the pancreas. These processes of "inner secretion" are accounted for on the supposition that the secreted substances either increase the functions or neutralize the toxins produced by the nutritive changes of matter.

In the light of these facts of experience the importance of some ductless glands which, until a short time ago, were an annoyance to physiologists, has become evident, and also the functions of organs—as the liver, for instance, of which we had for a long time but the crudest ideas—have been revealed in a multiplicity not dreamt of before.

It would lead me too far were I to show in detail how early Swedenborg in these questions approached the present ideas, and how advancing science is beginning just now to verify many of his theses in a surprising manner. I should like only to point to his general conclusion on the functional connections of the abdominal organs. Swedenborg started from the principle that Nature never produces even the smallest point without having "a use for it or an end," hence he could never fall into the error of many older physiologists—that of considering certain organs as without importance to the organism; for instance, the spleen. He never considered an organ in itself alone, but always in connection with others, and sought to infer its unknown function from its structure, from its anatomical connection, especially from its blood-vessels. He recognized that the vital activity consists of a chemistry of enormous complexity; he knew that the glands especially represent the most wonderful laboratories and principally originate by their products the intricate composition of the blood. So he arrived at the result, contrary to his contemporaries, that the liver and pancreas exert a much greater chemical activity than seems to be indicated by their excretory ducts, that, in connection with the

spleen, they effect the purification of the blood, the removal of toxins, whereby they mutually support one another.

Still more wonderfully than the co-operation of the organs, Swedenborg has shown in his *Animal Kingdom* their ultimate subordination to the three highest centres—heart, lungs and brains, the representatives of the circulation, respiration and animation. He pointed out how this trinity is "found in every, even the smallest, particle of the body." Much of what he taught in this respect now belongs to the realm of science, especially many of his theories of the functions of the central nervous system, if we omit his *spiritus animalis*.

The crown of Swedenborg's physiological achievements is formed by his views of the functions of the brain, especially of the cortex cerebri.

Swedenborg defended the respiratory movements of the brain and the existence of the liquor cerebro-spinalis; he was the first to assign definitively the higher psychical functions and the perception of the senses to the grey substance of the brain; he taught in harmony with modern science that the various motor functions have each their special localization in the cortex cerebri, and so forth.

I have given only the results of a few of his physiological researches, but these are already sufficient to enable us to judge of the importance of his whole work.

If we examine these results we are forced to admit that regarded from the point of view of modern knowledge they surpass nearly everything that is to be read elsewhere on this subject in the writings of the eighteenth-century authors. The deficiencies, the mistakes, the incomplete proofs are the defects of Swedenborg's time, but the ideas, the prophetic anticipations reach forward victoriously to the threshold of our own age; they constitute the distinctive mental property of Swedenborg, and their truth has been wonderfully confirmed by the most modern science.

From day to day the number of concords between Swedenborg's ideas and recent biology increases. The doctrine of uses no longer forms an obstacle as it did some decades ago; and even the geometrical consideration of the structure of organs that Swedenborg liked to employ is beginning to gain recognition, although slowly. "Truth," says Swedenborg, "is unique and will speak for itself."

Even in other departments of thought signs of reconciliation are appearing. One of the most famous contemporary physiologists has written: "The more the greatness of nature is revealed to our understanding, the more clearly we feel

that behind the world of phenomena powers rule, in comparison with which human knowledge is scarcely more than a shadow."

With the better acquaintance with Swedenborg's scientific labours and with the growth of knowledge, we may hope that a silent evolution will bring about a complete change in public opinion concerning the researches of this great investigator, and, concerning the aims of this eminent man, for whom the lines of Goethe in *Faust* seem to have been inspired—

> "Und wenn Natur dich unterweist
> Dann geht die Seelenkraft dir auf,
> Wie spricht ein Geist zum andern Geist."

Dr. Rabagliati, after referring to Professor Neuburger as a distinguished professor in the University of Vienna, went on to refer to some of the many and remarkable anticipations which Swedenborg had made in scientific matters, by as much as 120, 130 and 140 years, and some of which he thought were not fully worked out yet. Dr. Neuburger had referred to some of these. He, the Chairman, would refer to the anticipation by Swedenborg of the discovery that the motion of the circulation in the brain proper was synchronous, not with the cardiac circulation, but with the respiration. This was one of the most extraordinary things which he, the Chairman, knew in science. Indeed, Swedenborg's was a most extraordinary mind. Great in science, he was equally great in philosophy and still greater, if possible, in theology. But, indeed, these three phases of inquiry were only three phases of the one inquiry, What is the meaning of human life on this planet? The imperious demand for unity compelled Swedenborg to undertake the inquiry into this question. Man was not only an observing and describing being, and therefore scientific; he was also a reasoning being, and therefore philosophical; and he was, lastly, a being with spiritual aspirations, and therefore religious; and after he had made what efforts he could towards the solution of these three sets of questions, he was driven by the imperious demand aforesaid for unity to attempt to see how all these three phases of inquiry could be harmonized. He, the Chairman, believed, or saw quite clearly, and he wished that he could impress his conviction on his present audience, that the reason of the disharmony of present-day life, its political rancours, its philosophical and religious wranglings, was in one word this: We had accepted (altogether without warrant

or philosophic justification) a materialistic science; and a materialistic science was, if they looked at it closely, wholly and for ever incompatible with an idealistic philosophy towards which men obscurely groped, and still more with a spiritual religion towards which they were passionately impelled. The first half of the nineteenth century ended with Wordsworth's statement that

> "Trailing clouds of glory do we come
> From God who is our home."

But the second half of the century was captured by the foolish agnosticism of Huxley and Darwin, and we had never been warm or illuminated since, until the discovery of radium in the very end of the century, and the generalisation of radio-activity as associated with *all* bodies, and not only with radium, uranium, thorium, etc., put a new interpretation into scientific facts, or at least suggested to us that a new interpretation was possible. Swedenborg might have achieved an even higher distinction in science than he did, had he devoted himself entirely to it; but he could not be confined to the narrower sphere; and the audience might perhaps agree with the Chairman in thinking that the great disappointment of Swedenborg's early life which prevented him from becoming the founder of a family was one of those things which were ordered for good. It certainly paved the way for his devoting himself many years afterwards, and when the purpose of his earlier life had been achieved, to those inquiries which were the last and highest and final sphere for the exercise of human powers, and which, in the speaker's opinion, obtain a firmer and ever-stronger hold over men's imaginations as life advanced, and become ever clearer and more illuminating and instructive just in proportion as men had used well, or had attempted to use well, their powers of self-government and self-control in the earlier part of their life. It was this which, in the speaker's opinion, had impelled Swedenborg, after about fifty-five years of age, the age when most of those die who do not understand nutrition or what he would call the action of tropho-dynamic on the human body, to devote himself to those marvellous inquiries which had illuminated the latter third of his life, and were capable of enriching his successors' lives, in proportion as they candidly allowed themselves to receive the heat and illumination which were ever struggling to warm and enlighten every soul that comes into the world.

The facts of science, the Chairman went on to say, were

very wonderful. They were not exhausted; far from it; the revelation was only yet at its commencement. Whenever they are established, science is perfectly right in demanding that we shall accept them; and we should be untrue to our observing and narrating and describing powers if we did not. But the meaning or significance of the revelations of science, or *to* science as he preferred to put it—there was the greatest possible difference as to this according to our point of view. What science was entitled to say, and what therefore he, the speaker, freely and cordially yielded assent to, was this: Take as an instance Newton's law of gravitation. No doubt gravitation and material substance are related to one another in a way that is perfectly definite, and has been established (so far as it goes) by a law that will hold for all time; viz. that gravitation is proportional to the quantities of material substance in action or use, and also to the reciprocal of the squares of the distances of these masses of substance from one another. That law might possibly be superseded by being shown to be a particular case of a still higher law. He, the speaker, thought he saw dimly some such suggestion arising on the mental vision. But so far as it went, the demonstration would never be overthrown, although it might possibly be superseded by being referred to a higher and more-embracing law. But to state this conclusion, as science invariably did, and as even Newton appears to have done, as synonymous with the statement that gravitation is a property of matter, is to fall under the domain and the insidious government of a philosophy that is false and which must unquestionably destroy the possibility of a spiritual religion, as in fact the history of the second half of the nineteenth century had plainly shown. It never seemed to have occurred to science that, in the first place, she was going out of her sphere altogether in making this assumption, and that to determine the question whether gravitation was a property of matter, was a question not for science at all but for philosophy. And, in the second place, when the question is referred to philosophy, where it unquestionably belongs, we see at once that the answer may be that matter is a property of gravitation. In his, the Chairman's, opinion this was a much more likely explanation, although, if the audience would allow him to say so, he thought the true account of things was not even this, but the following: Gravitation and material substance were, he would suggest, not cause and effect of one another but concomitant and successive effects of a common cause which underlay them both. It was exactly

at this point and because neither Darwin nor Huxley, nor, so far as the speaker knew, any except a very insignificant number of their contemporaries, saw the bearing of this, that we had such a childish philosophy governing the last half of the nineteenth century as we had seen. Anything more pitiable, anything more futile, anything less warm and illuminating than that philosophy he, the speaker, could not conceive. Because animals were made alike, therefore they must be descended from a common ancestor ! ! There was no other explanation ! ! ! Indeed ! Suppose that all the phases of an omnipotent, ubiquitous and eternal energy emanate from one source, would they not all work alike or in similar ways for that reason ? How could they fail to do so ? Would not this view account for the similarity in the construction of men and animals, without the need of assuming a common ancestor at all, or without the need of assuming from four to six common ancestors, as Darwin did ? Even on Darwin's own showing (this point is constantly overlooked) there is no suggestion of a common ancestor. If he required from four to six common ancestral forms, where is the distinction in principle between 4 and 6 or 8 and 12 or 16 and 24 or 32 and 48, or in fact between 4 and 6 and any number of original forms ? In the speaker's opinion there never was a common ancestor nor any number of common ancestors. The majesty and indefinite variety of nature is not bound down by any such futility. Take the accepted definition of a species. The scientific definition of a species is that it is all the individuals which have descended from a common pair. A common pair ! What was the age of the common pair of ancestors ? Take the barn-door fowl. Could you obtain a strain of barn-door fowls from a virile cock and a senile and decrepit hen ? Obviously not. What then ? You must assume that the original cock and hen were about the same age, either young, in which case they would have to grow till the procreative stage was reached, so that they should be able to produce their kind, or already full-grown and at the reproductive age. Now, can you tell me why or how the power of life of the barn-door fowl, or what we may call alectorido-zoo-dynamic, can you tell me why this power—one of the forms of the universal, omnipotent and eternal energy—should be limited in the procreation of specimens of its manifestation, to any one age ? Why ? How could it ? Why should it be limited to any one age or stage ? Cannot you see that when the fulness of the time had come, that is, when the environment was ready for it, alectorido-zoo-dynamic

procreated at once, and simultaneously all the ages and stages of the barn-door fowl from the male and female ova at the beginning of conception, through all stages till the end of the 28 days when the little beaks were breaking the shell, when the newly-hatched chick picked up the food provided for it, through the stage when the baby-chick was running about, when the adolescent chicks were running about on more vigorous and swifter legs, when the adolescent and mature cocks and hens were strutting about as if the universe belonged to them, and when the post-mature were becoming senile and decrepit? Is not this far more likely to have been the manner of creation or of procreation than the childish suggestion of the formation of a common pair at we do not know what age? Is not this suggestion far more compatible with the further certainty that the eternal now of the action of a phase of the omnipotent, ubiquitous and eternal energy inevitably translates itself into succession to the mind and observation of the finite observer? And is it not certain that in this way also the human race likewise appeared, not necessarily all the varieties of it, at once and simultaneously, but individual members of some of its varieties? Else where or whence did Cain find the wife that he lived with in the land of Nod? Would he be likely to marry his own sister? My friends, there is no evidence for the existence either of the common ancestor, or for the common pair from whom any given species is alleged to have been descended. But if common ancestry is not necessary and is inadequate to explain the similarity of construction of apes and men, what of embryology and what of the existence of what are called rudimentary or surviving vestiges of organs? Well, if animals are made alike because they are procreated by forms or phases of power emanating from one source, would not this view account for the fact that the developing embryos of various animals are very like one another? The identity of the embryos of dogs, pigs, apes and men has been assumed, or at least their indistinguishable similarity; but I think that this is an exaggeration. They are not identical, and the expert can always show slight differences. But no doubt they are very much alike. Yes, they are; and they are so, I suggest to you, for the very good reason that canine-zoo-dynamic and porcine-zoo-dynamic and pitheco-zoo-dynamic and anthropino-zoo-dynamic, being all forms of the one universal, omnipotent and eternal energy, work similarly for this reason. The wonder would be if they did not, not that they do. Then, as to rudimentary

organs. Take a case. The horse has a platysma muscle under the skin so strong as to shake the skin and to shake water off it or even flies, while we have a platysma so weak as to be unavailable for this purpose. But suppose that neither hippo-zoo-dynamic nor anthropino-zoo-dynamic knew anything about the reasons which compelled the insertion of a platysma to move the skin, might not the power behind both horses and men have known that horses would require this power to be exerted for certain purposes which men would not, since they could use their hands for this purpose or get one of their friends to do so on using their power of speech to make known their request? And yet since hippo-zoo-dynamic and anthropino-zoo-dynamic are forms of the one universal, omnipotent, and eternal energy, they work similarly by inserting a platysma in both animals. Where is the difficulty? And do we get rid of the necessity of accounting for the creative act or a creative act by supposing the existence of from four to six original ancestors, when these four to six original ancestors themselves require to be accounted for? Why should our bias against creation carry us so far? Is it reasonable? If only Huxley or Darwin had been a little more philosophical! If only they had seen the boundary line between science and philosophy; if only they had prevented the votaries of the one domain from encroaching on the province of the other, how much better would it not have been both for them and us.

Science is continually assuming that variation requires to be accounted for. Does it? Is not variation given in the terms of the problem? Is it not likely that any given phase of power, human, canine or pithecoid, springing or emanating from an infinite and eternal source, will, nay must, procreate the forms of its manifestation in accordance with the infinite possibilities contained within its source? How or why could it be limited to the production of any one form? Is it not identity that would have to be accounted for, if it existed, which it never or hardly ever does, or indistinguishable similarity? I suggest to you that it is so. Science seems to me to be under a complete misapprehension in this particular. And yet it is not too much to say that the whole of the absurd Darwinian theory depends on this misapprehension. It is through variation that Darwin obtains his unnatural and false evolution, while the true evolution of nature has either never been seen by him, or if seen, has not been referred to. The true evolution of nature is the emanation of an infinite variety of powers or of forms

or phases, or varieties of powers, from an infinite source, and translating themselves into a corresponding hierarchy of forms suitable for their manifestation and habitation. These varieties of power have, each of them, an infinite variety of phases of expression, like the source from which they spring; but each of them is limited to its own order, in which, however, there is always an indefinite amount of variation. Yet though the homer and fantail and pouter and runt and barb and tumbler and blue rock are all vastly different from one another, so different that had we not known their history we might have referred them, not merely to different species but to different genera, how did Darwin not see that in order to prove his case, he ought to have shown us that these, or some of them, revert occasionally to hawks or herons or eagles or rooks or crows, let alone to saurians or amphibians?

Why should his bias against creation have blinded that candid and patient inquirer to a necessity of proof so obvious as this? I think it is a very poorly thought-out theory. It carries no conviction to me at all. In my opinion, although it has captured the scientific mind and the philosophic mind (too much of it) it is not true. A true philosophy would have seen as even now it cries out in the market-place and in the forum, and whispers also in the quiet of the reflective chamber that neither constant succession nor constant concomitance is the same as causation. The hen and the egg, although they always succeed and follow one another to the limited and finite observer, are no more cause and effect of one another than is day the cause of night, or night the cause of day, although they precede and follow one another also. But the nexus is the same in both, and they are successive effects of a common cause, viz. alectorido-zoo-dynamic on the one hand, and the rotation of the earth on the other, and the manner of its behaviour to the sun. And the constant concomitance of gravitation with material substance, in its orderly and majestic way, points to a similar nexus as explains the succession of day on night and of father on son, viz. the action of Hylo-dynamic to procreate material substance and the eternal existence of the omnipotent, universal and ubiquitous source from which it springs, the Lord and Giver of Life and of all good things that fill it with efficiency, good-will and constant adoration. To the mind of a seer like Swedenborg in the very front rank of science in the early part of his life, and a past master in the use if not in the study of philosophy in the second part of it, the attractions of the celestial and the spiritual were, in the concluding part of it, supreme. It was like the

irresistible song of the sirens alluring him on, but, unlike that deceptive incantation, it brought him not into a whirlpool in which his ship would be rotated ever faster and faster, till, deprived of the directing power of its compass and of the control of its rudder, it should be hopelessly engulfed; but, on the contrary, it brought him into the calm waters of a roomy and commerce-bearing harbour, washing the shores of the home country. And I can hear his voice as it says to us, anticipating the further evolution which an attentive study of the process of life forces upon each of us: Whenever humanity with one accord determines that as it can neither achieve nor prevent the purposes of the universe, but realizing that it is graciously called upon to hasten the progress of things which yet can go on quite well without it—whenever with one accord humanity realizing this, determines to do what in it lies to hasten the further evolution of the beneficial powers of this universe, then will have begun the millennium, and coincidently the fulness of the time when humanity itself shall be superseded by a higher form of life. But if that higher form, not arising as our children, but because the fulness of time shall have come, and because all things are ready, shall appear to us as objects of worship, because they shall be so much higher than we, perhaps inheriting the knowledge which in each succeeding generation we need to acquire laboriously—if, feeling this, we should be tempted to throw ourselves at their feet in worship and adoration, then will they gently take us by the hand and say, "Not so, for we also are like you, creatures raised up by the wisdom and love of the infinite—worship God only."

SECTION II.—PHILOSOPHY

REV. FRANK SEWALL, M.A., D.D., [*p.* 135
President of the Swedenborg Scientific Association, Philadelphia, U.S.A.

MORNING SESSION

SECTION II.—PHILOSOPHY

Wednesday, July 6th.

THE PRESIDENT: Before we formally open the Congress this morning, I think you will be interested to hear the following telegrams:—

> "The Directors and Keepers of the Royal Library, Stockholm, entrusted with care of the greatest existing collection of Swedenborg's printed works, present their respects to the Congress, with thanks for invitation and wishes for successful meeting. Dahlgren, Lundstedt, Beijer, Geete, Haverman, Linder."

The next two are from men whose names are especially interesting. One is the head of the Swedenborg family, who wires from the Polar Circle:—

> "Your discussions are followed with the deepest interest at the Polar Circle by W. Swedenborg."

The third is from Lieutenant Emanuel Swedenborg:—

> "Present in my thoughts. Emanuel Swedenborg."

He is the brother, I believe, of the Captain W. Swedenborg, whose telegram I have just read. It is now my pleasing duty to introduce another old friend, the Rev. Frank Sewall, M.A., D.D., of Washington. I scarcely know in what capacity I ought to introduce him. He is a poet, a student of European literature, a musical composer, a great student of philosophy, and he has submitted to the Church very important discussions on the philosophy of Swedenborg's time. He is, in addition, a deep student of New Church doctrine.

DR. SEWALL took the chair, and delivered the following address:—

The management of this Congress has assigned a place intermediate between Swedenborg's Science and his Theology

for a consideration of his Philosophy. I trust the papers presented to-day will show that this allotment is justifiable; that Swedenborg has made his distinct and unique contribution to philosophy as truly as he has added to our scientific and theological resources.

I am aware that this claim may seem open to dispute; that it may be contended that all that Swedenborg himself terms his philosophy is really a sublimated natural science; that it is an ensouled materialism; his rational psychology being only an anticipation of the grandest results thus far of the psycho-physiology and the experimental biology of the present time; and that, on the other hand, his distinctly spiritual doctrine is what he himself designates as the *sapientia angelica*—that wisdom of the angels which belongs strictly to the realm of theology and of its revealed truths.

In this dilemma our contention is that Swedenborg does make a distinct contribution to pure philosophy, not so much in the invention of new concepts, as in his verification from experience of the old ideal ones. These are the concepts of the spirit and of the spiritual reason as intermediate between sense and soul and between science and theology.

A curious title was that given by Swedenborg to his great scientific series, *Opera Philosophica et Mineralia;* allying so clearly as it does abstract speculation with the hardest facts of scientific knowledge. But he claims to have come afterwards to a higher kind of knowledge; a knowledge too from experience; from things heard and seen in another world than this of matter; and from his digest of this experience he might not inappropriately have set forth his new series as *Opera Philosophica et Spiritualia.* For it is the bringing in of the spiritual world as a factor in human knowledge, whether scientific or philosophical, that constitutes Swedenborg's real and unique contribution to philosophy as such. In this he has enlarged the philosophers' "Weltanschauung" for the first time in the history of human thinking, with a systematic, digested system of a world intermediate between God and nature; with the conception of a cosmology possessed of an informing soul corresponding to a man's body and the principle that animates it.

The epoch-making significance of such an addition to man's survey of life and the world, now for the first time seen in its two-fold aspect—from nature and from spirit—and these two aspects equally experiential, scientific and logical in their claim to reality, was deeply hidden and silent as far as contemporary popular observation was concerned.

To trace its real effects we must go to those deep sources of mental influence, the leaders of philosophic thought whose teaching or ideals have for the past century and a half been keeping invisible company with the bold declaration of the seer himself. I refer especially to Kant and Goethe, the great sources of modern idealistic and transcendental thought, whether in Germany, England or America, to whose names might be added those of a host of minor lights in philosophy, poetry and fiction in France and Scandinavia as well as in these countries. The new *Weltanschauung* is what gives the great psychic significance to that poem of humanity—Goethe's *Faust*. It has been reserved for comparatively recent critics to discover not only that Goethe was in his youth a devout student of Swedenborg's *Arcana*, but that the whole structure of *Faust* is based upon this doctrine of the two worlds, the Book and its Key, the problem here and the ultimate solution there. Especially in the Second Part and the mystic scenes of the ending do we see certain intimate relations between spirits there and the new coming spirit from the earth, and certain vital moral effects of the change from one world to the other which find their parallel expression nowhere else as in Swedenborg. See the Doctorate Disputation: Hans Schlieper, Berlin, 1901.[1]

But especially in Kant's *Critique of the Pure Reason* and posthumously published *Lectures on Psychology* do we find unmistakable evidence—and this from the examination of professional critics only—that Kant drew from Swedenborg principles most vital to all that part of his philosophy which is of permanent value and has most influenced the thought of the world since his time. I refer especially to his particular doctrine of the human senses, of the mental *schemata* of time and space, and of the consequent Phenomenology of the Spirit, or what would be called in Swedenborg's phraseology the Correspondence between the Spiritual and the Natural world and their mutual relation as that of cause and effect. Of Kant's direct indebtedness to Swedenborg there can be no doubt, if we may rely on the latest and most thorough research in the matter as pursued by the most prominent Kant students of Germany. The fact itself is significant, that Kant wrote in 1768 to his English friend Green desiring information from Swedenborg regarding the two worlds; that the following year Swedenborg published

[1] Emanuel Swedenborg's System der Naturphilosophie besonders in seiner Beziehung zu Goethe-Herderschen Auschauungen; Inaugural Dissertation: Berlin, Gustav Schade; Linien Strasse 158, 1901.

the little work on the Two Worlds, entitled *De Commercio*, commonly known as the *Treatise on Influx;* and that in the year following this, Kant in assuming the chair of philosophy in the University of Königsberg delivered his inaugural address on the same theme—*De mundo intelligibile et de mundo sensibile*—the equivalent of *The World of Spirit and the World of Matter*, inasmuch as by *sensibile* Kant meant whatever was known to man through the medium of the senses.[1]

In a chapter devoted to a discussion of the origin of Kant's Doctrine of Time and Space, especially as to whether Kant's attitude in the year 1770, as represented in the *Dissertation on the Two Worlds*, was wholly the result of his own thinking, Professor Vaihinger, the leading living Kantian philosopher and the editor of the *Kant-Studien*, remarks :—

"Laas in his *Anschluss an Duhring, krit. Gesch. d. Phil.*, 396, finds in Kant's dissertation Swedenborgian influences, a view at first surprising, but not to be dismissed too abruptly. Attention has been called to this subject (pp. 143, 344). We only need to recall that in the *Dreams*, i. 2, and ii. 2, Swedenborg's theory of the Two Worlds is thoroughly discussed, and that Swedenborg, who regarded the sensuous world in space as only a 'phenomen' of the unspatial spiritual world, applied precisely the same terms to both worlds which Kant used, *Mundus intelligibilis et sensibilis.* Compare also Kant's *Vorlesungen ueber Metaphysik;* published by Poelitz (1821), p. 257. The same passages have led also Riehl, *Kritique*, i. 229, to accept Swedenborg's influence upon Kant. Compare my review of the edition of Kant's *Vorlesungen über Psycologie mit einer Einleitung: Kants mystische Weltanschauung* by Du Prel (1889), in *Archiven für Geschichte d. Phil. IV*, 721 ff. If this last author considerably exaggerates the connection of Kant with Swedenborg, still we are not to fall into the other error of denying altogether a positive relation of Kant to Swedenborg which shows itself occasionally in the *Critique of Pure Reason:* see A 394, A 808, B 836; in the *Critique of the Practical Reason*, i. 2. 7. (Ros. viii. 242: Hart v. 112); Vaihinger: *Kant Commentar*, ii. p. 432."

Says Kant, as quoted by Du Prel, in the work referred to

[1] For a full discussion of this matter of Kant's indebtedness to Swedenborg I must refer to my Introduction to Goerwitz' translation of the *Dreams of a Spirit Seer*, where all the authorities are referred to in detail. Swan Sonnenschein & Co., London, 1900.

by Vaihinger: "The thoughts of Swedenborg are in this connection (that is, with regard to the Two Worlds) very sublime. He says the spiritual world constitutes an especially real universe; this is the intelligible world—*mundus intelligibilis*, which must be distinguished from the sensible world, *mundus sensibilis*."

In Kant's Lectures on Psychology his *Dreams of a Spirit Seer* are placed in an altogether new light—"The book has been interpreted as a daring venture of Kant's genius in making sport of superstition; the accent has been laid on Kant's negations, and his affirmative utterances have been overlooked. The *Lectures on Psychology* show, however, that these utterances were very seriously intended. For these affirmative portions of the *Dreams* agree very thoroughly with the lengthier exposition of the *Psychology*, and the wavering attitude of Kant is no longer perceptible." (Du Prel. Introduction to Kant's Lectures on Psychology, pp. vii–viii.) "And further," says Du Prel: "the faculty ascribed to Swedenborg answers completely to Kant's conception of a being inhabiting two worlds at the same time" (*ibid.* p. xxiv).

Whatever may be the value of Swedenborg's doctrine of the objective reality of the spiritual world, this Kantian episode is sufficient to indicate the new note that this doctrine struck in the whole chord of philosophic thinking. In the popular conceptions of the life after death its effect has been well nigh revolutionary. But it is in neither the Kantian nor the popular apprehension of the doctrine that Swedenborg's revelations regarding the spiritual world have their deepest and permanent philosophic value. This lies rather in the completing of the *Weltanschauung* by introducing as a medium between God as infinite spirit, and nature, a realm of finited spirit; between God as end or *causa finalis*, and nature as effect, the spiritual world as the true world of causes—the *causa efficiens*. The doctrine lifts cause entirely out of the realm of nature and of science, regarding these as a procession of effects only, in themselves dead, inanimate, individual and lifeless, and obtaining all their motion, form, relation, and life from the influx of spirit from the world of spirits intermediate between nature and God. The relation of this spiritual world to nature is precisely analogous to that of the soul and rational mind to man's physical body. In this relation the whole physical, mechanical plane of being, known to the sense as matter, time and space, becomes an animated or ensouled

mechanism; and the moral activity of the human race, enswathed as the race is, during its earthly abode, with a vast atmosphere of spiritual influences both good and evil, is kept in the equilibrium necessary to freedom, and so to the forming of character for eternity.

The concept of cause as essentially spiritual and thus differentiated from the mere mechanical category of "invariable antecedent" finds in the spiritual world the same agency of relationship and adaptation of means to end for nature as it finds in the subconscious and the conscious mind for the body. For relation is essentially spiritual. It takes the lifeless, aimless individual out of itself and places it in contact with the other than self and with the whole. The individual of nature becomes thus transformed into a sentient part of a living organism. And it is through this altruistic activity of spirit, this relation of each to the other, that the divine end which is Love exerts its absolute control and providence without taking away the freedom of the individual. It is thus that nature from the basis of purely mechanical necessity can rise by a ladder of the mutual uses of the elements and of the life of charity in men up to unity with the divine which is its source.

For, finally, it is that other essential, that necessary companion of human freedom, namely, human rationality, that owes its being in man likewise to the spiritual world. As freedom is the divine gift poured from its source in God into the will of man as its receptacle, so is rationality, the companion gift, poured into man's intellect. Let the following extracts suffice for Swedenborg's definition of the origin and function of the reason:—

"What goes on in the internal man cannot be apprehended by the man himself, because it is above the rational from which he thinks. To the inmost or internal man is subject the rational faculty or principle which appears as if belonging to man. Into this, through the internal man, the celestial things of love and faith flow, and through this rational down into the scientific things which belong to the external man; but the things which flow in are received according to the state of each" (*Arcana Cœlestia*, No. 1941).

"Man is not born into the rational, but only into the faculty of receiving the rational; and as he learns and imbibes all things, so he becomes rational. This is done by the way of the body. But there is something constantly flowing in from the interior which receives the things thus entering (through the bodily senses), and disposes them into order. Hence is

their order and the relationships among them, from which it is evident that the rational faculty of man is from divine celestial good as its father" (*Ibid.*, No. 2557).

"The things of reason illustrated by the divine are appearances of divine truth. All appearances (phenomena) of truth in which is the divine are of the rational faculty, *insomuch that rational truths and appearances of truth are the same*, whereas scientific things belong to the natural plane."

"Rational truths can never exist and come forth except from an inflowing of the divine into the rational faculty of man, and through the things of reason into the scientific things which belong to the natural plane of the mind. The things that then take place in the rational appear in the natural plane as an image of many things together in a mirror" (*Ibid.*, No. 3368).

Thus we see that this faculty is that "something from above" which Aristotle recognized as distinguishing man's reason from the instinct of nature: it is the informing light of spiritual truth which shines in the mind or spirit from the Lord as the Sun of the spiritual world, precisely as the light of nature's sun falls upon our natural vision. It is solely by contact with the spiritual world and from its light that man is endowed with reason as distinguished from the instinct of brutes, or from the blind imperative laws of inorganic matter. Mind, as organized spiritual substances and forms, can possess consciousness of relation, the knowledge of causes, a memory of the past, an anticipation and provision for the future—all that is necessary to a permanent and immortal personality; and this the realm of nature's lifeless, purposeless, unassociated individualities cannot give. The rational, therefore, is the gate of spiritual influx into mere natural knowledge, and therefore the seat of intelligence, which Swedenborg discriminatingly defines as the *Knowledge of Causes;* and it is likewise the gate through which nature and science can look upward and obtain the vision of God and of the eternal life. Knowledge itself is alone possible through the soul's unity of apperception, its seeing many things at once; and the soul can see thus only by virtue of the light of a world which is above the time and space of nature. It is the spiritual world that by the radiating of its rational light through the tangle of natural knowledge reveals to man the understanding of the true *cause*, and thus opens the way to his attainment to a spiritual and so a truly rational philosophy.

In thus confining my attention to Swedenborg's doctrine

of the Two Worlds as his chief philosophic contribution, I would by no means ignore those important themes—the doctrine of Series, Order and Discrete Degrees, and the correlative doctrines of the evolution of Forms, the order of Influx of the Divine into nature, and the great sociological doctrine of the *Maximus Homo* or Society as the Larger Man. In a nation such as this of our hosts to-day, whose Wilkinson has dwelt at length and in a style so luminous and rich upon these themes, it is not necessary that I should more than mention them. These are all indeed, not only vast, but new conceptions, which we may believe will have a transforming effect on the philosophic and ethical systems of the future. I have dwelt especially upon the doctrine of the Two Worlds, because this is fundamental to the true philosophic, psychologic and ethical application of all these other themes. Without this doctrine of the Two Worlds, the world-view would at once lose its otherwise complete survey, and so these particular themes would be shorn of their entire human validity. With this doctrine the problem of the ages finds its solution:—

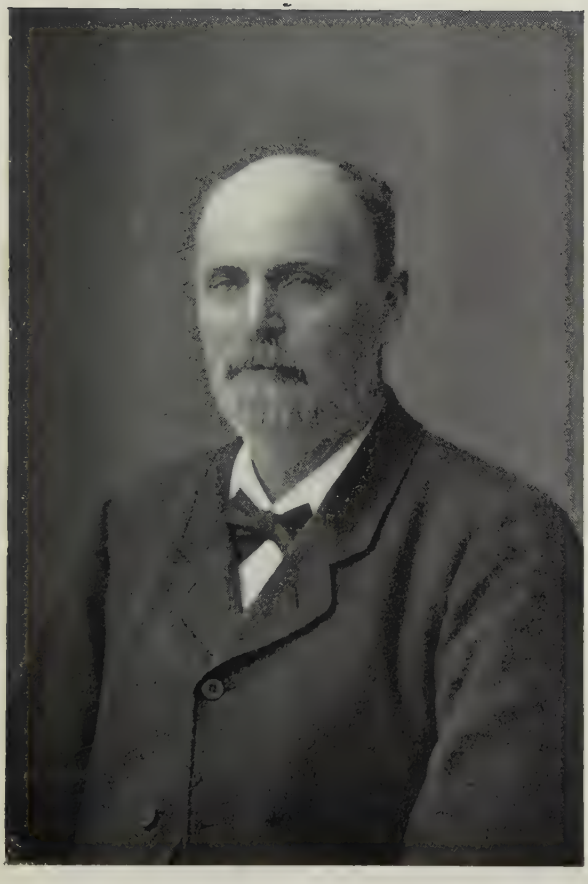
> "Das Unzulängliche
> Hier wird's Ereigniss
> Das Unbeschreibliche
> Hier ist es gethan!"
> (*Faust:* Goethe.)

In this very hasty and general survey of Swedenborg's philosophy I have purposely omitted all mention of that great *first Philosophy*, the doctrine of God and the Wisdom of Ends which belong to the department of theology, and which will be considered on the two following days. And now for our to-day's session I have to invite your attention to the specific topics and developments of Swedenborg's philosophy as indicated in the programme.

SOME INDICATIONS OF SWEDENBORG'S INFLUENCE ON SWEDISH AND GERMAN THOUGHT

By Mr. Hjalmar Kylén, Stockholm.

One of the most renowned Swedish philosophers now living, Professor Norström, of Gothenburg University, says, in his criticism of that philosophical system which reigned



HERR HJALMAR KYLÉN, [p. 142
Kungsholms Realskola, Stockholm, Sweden

in Swedish thinking since the middle of the last century until superseded by the waves of continental naturalism and scepticism which overflowed our country, namely, the system of the Swedish philosopher Christopher Jacob Boström:—

"To him spiritual substance is that which is primary to reflection, while all perception and all activity is secondary, something that only exists with, in, and through the former" (1).[1]

Now, adherents of Boström's philosophy object to this statement on more than one point; they say, among other things, that the "Primary," from Boström's point of view, is correctly characterized as *substantial.*

The faithful guardian of Boström's philosophy, Dr. Gustaf Jacob Keijser, of Stockholm, quotes, in a volume which has just appeared, the following expression of Boström: "[Abstract] self-consciousness is the substantial, but is not substance. Substance means a self-consciousness determined in some way"; and further on he says: "It is also to be observed that just as Boström could . . . characterize self-consciousness *as* the material of which everything consists, so he could also, without contradiction, say that absolute self-consciousness is the basis of all" (2).

Absolute self-consciousness being, according to Boström, the absolute personality, or God, his essence being Wisdom and Goodness, this exposition will not, I think, granted some differences of terms, seem very strange to those who are familiar with the teachings of another of my countrymen who speaks of God as the Divine Man, the Soul of the Maximus Homo, his essence being Wisdom and Love.

I will ask your permission, Mr. President, to quote, without criticizing, still another passage from Professor Norström's work: "In respect to relative concreteness and reality, the spiritual, with Kant and Fichte, means an ideal demand, *whilst, on the other hand, its individual root is unknown.*[2] In their teaching about personality Kant and Fichte, therefore, confine themselves to the ideal laws that determine human activity, while Boström claims *to start from a knowledge of the spiritual as individual substance,*[2] and to widen this knowledge."

I hope these quotations will suffice to give some hints concerning the difference between Swedish idealism and such an idealism as that of Kant and Fichte, as well as, at the

[1] The numbers inserted in the text refer to the Author's Notes which will be found in the Appendix.

[2] The italics are mine.—H. K.

same time, to convince my esteemed friend, the reviewer of recent Swedish literature on Swedenborg in No. 2 of *The New Church Quarterly*, that I fully agree with him in his disapproval of any merely idealistic philosophy as being the nearest approach to the philosophy of the New Church, *as long as* by idealism is meant any German philosophy, old or modern, that knows nothing of the reality of the spiritual world but its claim upon man and its merely formal laws.

Whence did Boström get that "individual substance" (according to Professor Norström's exposition), which became with him the absolute Person?[1]

Having put this question to some of his pupils of an older generation, I received different answers. Once I was told that this seems to have been a continuation and development of Schelling's Idealism. Some months ago I found something like this in a book by Dr. Pira (3), the best interpreter of Boström's philosophy among the later generation, where he points to the criticism of Schellingism made by Boström and other champions of especially Swedish philosophy as the starting-point of Boström's speculation.

In one of his lectures already mentioned Boström briefly reviews Locke, Berkeley, Kant, Fichte, and Schelling. "Nature," he says, "according to Schelling possesses the same substantiality as man, although the principle expressed itself more obscurely in matter." "With him, substance is not originally materialistic, but differs from the substance of Spinoza by being idealistic. A *realistic tendency* remains there nevertheless."

On the other hand, I find toward the end of Dr. Schlieper's dissertation (4) some words which I should like to have cleared up by some one well acquainted with the history of German philosophy. After showing how, according to his opinion, Goethe has continued and perfected Swedenborg's natural philosophy, he tries to explain "der fast plötzliche Umschlag der Schellingschen Philosophie zu einem objectiven Idealismus," by tracing it back to the standpoint that Goethe is said to have attained on the basis of Swedenborg's scientific works. The supposition of Schelling's having been influenced by Swedenborg, even though only at second hand, will be strongly fortified by Dr. Schlieper's reference to books studied by Schelling at that period of his life. Among these are works by Oetinger, whose admiration for Swedenborg is well

[1] Boström's system seems to have been completed about 1840; he died, as Emeritus Professor of philosophy at the University of Upsala, in 1866, at the age of sixty-nine years.

known. As to that I need only refer to this statement by Byse: "Oberlin et le Dr. Oetinger . . . se nourissaient de ses écrits" (5).

Now there is an allegation made by Swedenborg's admirers that through him the whole of European thought was turned from materialism and scepticism towards positive idealistic philosophy (cf. Kahl, note 19). This assertion has, of course, on the other hand, been denied, derided, or passed over in silence. I for my part feel inclined to believe in its truth, as everything which I have seen during the few years that I have been interested in the question of Swedenborg's influence confirms it. That this may be believed by the larger public, I think it necessary to direct our attention more closely to the line Swedenborg—Goethe—Schelling rather than to cling too fast to Swedenborg's influence on Kant. As shown by the second of my quotations from Professor Norström, Kant's philosophy at the height of its development, and in that form in which it has influenced succeeding generations, must be looked upon as being agnostic in regard to the root of the ideal demand, a feature—and to the eyes of Christian people with positive belief the principal feature—of the system of our philosopher Boström,[1] as well as of him who has been placed first in the series of the upholders of especially Swedish philosophy, Emanuel Swedenborg.[2]

I shall not attempt to show, nor can I urge, similarity in every point between Boström's system and Swedenborg's philosophy as it is exhibited in his later works, being well aware of many differences. I think it, however, of some use to those who might, from interest in Swedenborg, whose teachings are systematically supported by an idealistic philosophy (cf. Byse), feel inclined to take notice of that countryman of his who has, as claimed by his pupils, and I believe with justice, overcome the remains of realism, or perhaps more properly, of materialism, from which German idealistic philosophy has not been able to free itself, and therefore has good claims to be regarded as the Christian philosopher "par excellence" (Dr. Keijser) (2). But before going any further, I ought to try to remove an objection often met with, especially from believers in Christianity, when they take, for example,

[1] "I think we also ought, through a knowledge of Boström's world of ideas ('idea' meaning a real being, a person, substantial, *i. e.* spiritual. —H. K.), to be roused to gather and to learn the true, real progress and advancement. . . . The clear light that Boström throws, in the form of concepts, on existence, no doubt issues from Him who said, 'I am the light of the world.'"—Rev. Mr. Grönstrand, Abö. (See Note 6.)

[2] Dr. Liljekrantz Æsthetic Essay. (See Note 17.)

Boström's system as the result of logical deductions only, thus degrading the philosopher into a mere logical machine, which brings out one statement after the other, till it at length has reached the very top, the personality of God. I cannot do this in any better way than by referring to what Dr. Keijser says in his commentaries on Boström's lectures: "That which is found to be self-evident is so, not because the analytical search that preceded made it self-evident—then it would not be *self*-evident; but when the philosopher finds the self-evident, it makes itself evident to him; it, so to speak, radiates forth *in a moment* to him as that whose evidence is independent of everything else, even of what has preceded. In this way a philosophical system needs *no postulates*, no presumptions."

The world of ideas (or persons spiritual, *i. e.* substantial beings), to which Boström has attained, forms a complete organism, each person (except the highest) making organically part of higher persons (that nearest to the highest partaking of course only of the highest) which are only able to realize their own ideas in and through the lower. The highest, all-embracing idea, is God, himself not being limited by time and space, which are forms only for finite persons. Amongst higher persons, known to us all in this world, he especially points out the Nation (State) and Family. We recognize them by the claims they make upon us and by the rights they give us to work out our own personalities in and through them, and, by so doing, to work out their personalities in this form of life. In the true sense of the word, nothing exists but persons and their attributes. Only a person can impose duties upon us, as do the State and Family—for whose sake we may be bound even to give our lives.

I think you will find more than one approach here to Swedenborg's teaching, first in regard to his spiritual world, that fine organism, where, as Goethe describes it:

> ". . . alles sich zum Ganzen webt
> Eins in dem andern wirkt und lebt,"
> . . . . . .

and—

> "Himmelskräfte auf und nieder steigen
> . . . . . .
> Harmonisch all das All durchklingen."

Even if his spiritual societies, as being formed by spirits, who feel mutually attracted, will perhaps not be the same

as, for example, Boström's Nation (State), it ought, nevertheless, to be remembered that Boström is also speaking of other higher personalities, still unknown to us, and that, on the other hand, Swedenborg tells us of the nations in the spiritual world, nationality thus being a unit of eternal character.[1]

I find unmistakably one of Boström's persons in No. 42 of Swedenborg's visions in his *De Amore Conjugiali.* I quote from the Swedish poet Atterbom's exquisite paraphrase; (9) "He seemed *one*, but when he nearer came, I saw the angel was an angel pair . . . for when *he* spoke, he spoke from *her* as well," etc. I doubt whether any poet will be able to illustrate with greater charm than Swedenborg has here done, the content of Boström's teaching of the family as an idea, being a person in and through whom you attain the full development of your own self.

A reliable exposition of Boström's system is to be found in some German books. I refer, in the first place, to Prof. R. Geijer's exposition in Ueberweg's *Geschichte der Philosophie* (10). In one of his earlier works, written in Latin (11), Boström gives the leading thoughts of his system, the other works containing it having been written in Swedish.

You think, perhaps, that I have dwelt too long upon our philosopher Boström. The direction of a nation's thinking seems undoubtedly to be guided, as well as represented, to a very large extent, by its poetry and general literature, especially by those writers who are appreciated by a wide public. That may be true, but you will certainly not catch the characteristic features of a nation's *personality* as it springs forth in poetry and literature, unless you know the national philosophy.

In æsthetic literature, however, Swedenborg's influence may be more easily traced. In the first place, the lines run through Goethe. I shall give a very illustrative example. One of our most profound poets and writers, as to his central view of life a pupil of Boström, Viktor Rydberg, puts forth in a poem, entitled "The Brooder,"—in German, "Der Grübeler"—(12), the inner trials of a truth-seeker. There, when looking to a firm and harmonious belief, an object of intense desire in his fearful anguish of mind, he cries out:

[1] "A Swede will for eternity remain a Swede," says Capt. Liljedahl in his biography of Swedenborg, being, as to his remarks on this point and on various others, highly appreciated by the Rev. Mr. Manby of Stockholm in his New Church paper (8).

"How happy was Faust in his days of trial," giving his reason for such an outburst by bringing to mind words like these: "The world of spirits then was not yet closed" . . . ". . . With the bosom bathing in morning's purple" . . . "angel, thou mayest be a reality"; speaking further on of "the sign of the macrocosm" and of many other things whose origin is well known to all present. It was what Swedenborg had given to Rydberg through the great German poet, that remained with him in that trial, after his keen studies of Goethe. I think the same may have well been the case with many other open-minded men all over the world.

As to the influence of the *Arcana Cœlestia* upon Goethe during some years of his early manhood, I refer to Dr. Morris (13). The fact that the author exhibits a low appreciation of Swedenborg from an æsthetic and philosophical point of view, will the better prove the reliability of his researches.

Brieger-Wasservogel's introduction to his extracts from Swedenborg's theological works (14) has been justly disapproved of by Prof. Köhler (15), in referring to an article by von Mensi in the *Allg. Zeitung* of 1904, on account of his trying to make a pantheist even out of Swedenborg the theologian; the same sentence being passed upon him by Prof. Holmquist (16).

I find, however, Brieger-Wasservogel's views of great interest and value. It has frequently been said that there is rather little of the scientist to be detected in Swedenborg's later works, the Seer of Spirits having relegated philosophy to a subordinate place. But here we come across a pantheistic thinker, as Brieger-Wasservogel proves to be, who finds, even in the *theological works*, an elaborate pantheistic philosophy worked out with mathematical acumen, which makes him place Swedenborg as the most important link, hitherto hidden but now discovered, in the series of pantheistic thought from Spinoza to Goethe. Now there is something peculiar about Swedenborg, that every one seems to find in his writings just what he has been looking for. Astonished at his discoveries, he denies what others have found. But this only proves that the whole inheritance of our culture has been embraced by and collected in Swedenborg, who when lifted up to his higher level, *eo ipso*, lifted up his system to that higher level of Christian personality (17).[1]

[1] As to personality being the essential of Christianity, see p. 210 of Windelband's *Lehrbuch der Geschichte der Philosophie.*

If we believe in Brieger-Wasservogel's researches into the connection between Swedenborg and the whole philosophical system of Goethe—and I do not see why we should not, granted the difference between his point of view and ours—Swedenborg's importance for Goethe must have been far greater than we are led to think when guided only by Dr. Schlieper and Dr. Morris.

Although Goethe did not catch the central aim of my great countryman, regarding his *Arcana* almost as a manual of magic and conjuring of spirits, still elements of his teaching must have entered the minds of generations as well through Goethe as through the *neo-romantic movement*, of which Goethe is to be considered the starting-point. Through many other channels Swedenborg's influence may have been conducted to neo-romantic poets and writers, who through Goethe had become familiar with views based to some extent upon the writings of Swedenborg. I shall not attempt to trace this influence in German Literature; in Swedish Literature, however, it is quite apparent. In a very interesting and important publication of the year 1908 (18), Prof. Wrangel of Lund puts Swedenborg's adherents into the series of neo-romantic writers, the first of them being Thomas Thorild, a former pupil of the well-known Dr. Gabriel Andersson Beyer of Gothenburg; and Dr. Liljekrantz shows how Thorild's speculations base themselves upon Swedenborg's system of æsthetic philosophy, especially as expounded in his *Arcana Cœlestia* and his *De Amore Conjugiali*. I should be very glad to see Dr. Liljekrantz' exposition of Swedenborg's æsthetic system—revised, perhaps, in some minor points—translated into a language of wider reach than ours, to be used as a basis for further investigations concerning Swedenborg's influence on the neo-romantic movement in general.

The connection between neo-romanticism and *religious* movements, especially German pietism, should also be kept in mind in researches of this kind. As to my own country, the so-called Skara-Swedenborgianism, closely connected with what in the history of literature has been labelled the rationalistic Swedenborgianism, will be shown, if once fully treated, to have been of an enormous importance to Swedish thinking in general (19).

I have been asked to read here one of my notes, namely, that concerning Skara-Swedenborgianism. Skara-Swedenborgianism is best known through writings by Kahl and Gustaf Knös. Dr. Achatius Kahl gives a great deal of information about *The New Church and its Influence on the*

Study of Theology in Sweden in his work bearing this title, the term theology being used by him in a wide sense, and including, I might say, nearly all spiritual culture. This work appeared anonymously in Lund in four volumes, 1847–1864. Kahl had become acquainted with Swedenborg's teaching through his brother-in-law, Prof. Hellstenius, Dean of Lund, who came from the Diocese of Skara. See Bishop Ahnfelt's *Memoirs* (20). Although Bishop Ahnfelt neither approves nor seems to understand the New Church Doctrines, he says of Kahl, "One of the most eager and learned of his (Swedenborg's) apologists": "Kahl undoubtedly was an interesting personality; his Swedenborgian belief was firm as the rocks; it harmonized his mind and certainly also expressed itself in love and benevolence." Of another adept, Kahl's niece, Mrs. Ulrika Berling, also led through Dean Hellstenius to the New Church, Bishop Ahnfelt says, that she "lived and died happy in her New Church belief."

Dr. Gustaf Knös, professor of Oriental languages at the University of Upsala, and a member of the Royal Commission for the translation of the Bible, was a son of Dean Anders Olofsson Knös of Skara, one of the central personalities of Skara-Swedenborgianism, "highly esteemed for piety and learning" (Bishop Ahnfelt), and who has frequently been cited as its original promoter. Swedenborg, however, had earlier friends and admirers in that diocese. Dean Jonas Odhner, the first Swedish translator of the *Vera Christiana Religio*, was personally acquainted with Assessor Swedenborg, as I have been informed by his still living grand-daughter, Miss Fidela Odhner. Dr. Wahlfelt of Skara is also to be mentioned as one of the central figures among the early Skara-Swedenborgians.[1] It was, it seems, through an action which was brought against him that Dean Anders Knös had his attention directed to a serious consideration of Swedenborg's teaching. Through Gustaf Knös and the professor of theology, Sven Lundblad, afterwards Bishop of Skara, Swedenborgian thinking must have influenced the academic youth of Upsala in the early years of the nineteenth century. The work by Prof. Gustaf Knös, here referred to, appeared in 1824, entitled *Colloquies with Myself on the World, Man, and God.* A second edition was published in 1827 (21), and in the same year an apologetical work occasioned by

[1] I am indebted to Prof. C. T. Odhner of Bryn Athyn, Pa., for calling my attention to the fact that Dr. Wahlfelt was personally acquainted with Dr. Beyer of Gothenburg. One of the most important sources of Skara-Swedenborgianism seems thus to be made clear.

MR. ALFRED H. STROH, M.A., [*p.* 151
Representative abroad of the Swedenborg Scientific Association, Philadelphia

some sharp criticisms (22). Both works are anonymous, but the preface of the former is signed, "G. K." [1]

It would be out of my province to trace here the influence of Skara-Swedenborgianism on our minds and on those of our forefathers, in fortifying our belief in Christ's Divine nature, through the influence emanating from Swedenborg's doctrine, centering the Trinity *in* Christ as the only God. I do not feel inclined here to enter into any criticism of the other way of getting to the conviction that Christ is God, viz. the way of a *close* clinging to the Logos-thought, nor to try to make any reconciliation between the two ways. May it suffice to recall how Luther, in his original hymn (24) afterwards often changed and "corrected" in various ways, expressed his firm belief in Christ as God. It ought in that connection to be noticed that when writing *HERR* with four capital letters, he always meant God Jehovah. And now I will recite what Luther saw in a moment of sacred poetical conception:—

"Fragst du wer der ist?
Er heisst Jhesus Christ,
Derr HERR Zebaoth,
Und ist kein ander Gott."

THE PRESIDENT: A telegram has just been received from His Majesty the King of Sweden, which I will read:—

"To Broadfield, President International Swedenborg Congress. Please convey my heartfelt thanks and best wishes for the success of your Congress in memory of Sweden's great son, Emanuel Swedenborg.—GUSTAF."

SWEDENBORG'S CONTRIBUTIONS TO PSYCHOLOGY,

WITH SOME ACCOUNT OF HIS EARLY EDUCATION AND PHILOSOPHY.

BY MR. ALFRED H. STROH, M.A., Stockholm.

IN the short time at my disposal I cannot attempt to go deeply into any special section of Swedenborg's contributions to psychology, but shall only endeavour to give some account of his early education and philosophy, and to furnish

[1] Swedenborg's influence, especially in the religious direction, will undoubtedly be more easily traced when Prof. Holmquist's investigations have been published in full (23. See also Note 15). Prof. Köhlers' exposition, though a great addition to what was formerly set forth in Lutheran Church history, will then, I feel sure, be corrected and amplified in many respects.

a general description of the chronological order of his psychological works. Many of these works still lie in MS., so that it will be useful to point out the sequence of Swedenborg's various contributions, indicating the general course which he followed in passing from his preliminary physical and cosmological investigations into anatomy, physiology and psychology, and finally, when his spiritual eyes were opened, into that serene light in which the long-sought Psyche was no longer veiled.

In a recent contribution to *The New Church Quarterly* (July 1910) the general question of the interpretation of Swedenborg's works, especially those styled scientific and philosophical, has been considered, so I shall at once pass on to the subject of this paper, a part of that general discussion of Swedenborg's position in the history of philosophy and the sciences which was promised at the close of the article in *The New Church Quarterly* just referred to.

In examining the story of Swedenborg's long life one cannot but be struck by the circumstance that the son of a bishop, Jesper Swedberg, Swedish professor of theology, should early choose a path of life so opposed to the studies and inclinations of his father. The works of Tottie, Annerstedt, and other Swedish writers show us Jesper Swedberg as inclined in neither the scientific nor philosophical directions, and as professor in the theological faculty at Upsala he was in the midst of a group of men whose every effort had been to stifle the growing spirit of scientific research, as exhibited in the important Cartesian controversy which ran its course in the four faculties of theology, law, medicine and philosophy at Upsala University from 1663 to 1689. Jesper Swedberg, however, was not appointed professor of theology by King Charles XI until 1692, three years after a Royal Commission had declared that the study of philosophy should be freely prosecuted, but without attacking the Christian religion. By this decision the determined effort of the theologians to prevent the dissemination of Descartes' teachings at the university failed, and that philosopher's works were consequently not kept out of the reach of students, as had been the intention of the theological faculty, which was wedded to Aristotelianism. When Jesper Swedberg, therefore, arrived with his family at Upsala, a profound change had already begun to make itself felt in that ancient seat of Swedish learning, chiefly in the faculties of medicine and philosophy, with regard to the attitude of the learned towards the investigation of nature and of the human body.

Not long before, one of the chief defenders of Cartesianism, if not the prime force behind the whole controversy, Olof Rudbeck, senr., had introduced the dissection of the human body at Upsala, and as this champion of scientific investigation, the famous discoverer of the lymphatic system and the author of that remarkable historical and ethnographical work, *Atlantica*, lived until after the great fire at Upsala in 1702, we may suppose that Swedenborg not only heard a good deal about him, but that he may also have received some direct impressions from him; this being the more likely since the properties of Jesper Swedberg and Olof Rudbeck, senr., were close beside each other in the great square at Upsala, as pointed out by Professor Edward Clason. I refer to these facts because they furnish some hints as to how Swedenborg may very early have heard something about those subjects which, as we shall see, were to be the main objects of his labours until he was over fifty years old.

While Jesper Swedberg remained at Upsala (he removed to Skara in 1703, having been created bishop of that diocese the previous year), Swedenborg was surrounded by an atmosphere of loving piety and theological study: that he loved to converse with clergymen on matters of faith is shown by his own statement in a letter written during his old age. At the age of eleven, on June 15, 1699, Swedenborg was entered in the Westmanland-Dala Nation at Upsala, but until his father's removal to Skara in 1703 he was instructed by a tutor, Johan Moraeus, a student of medicine, later provincial physician at Fahlun, and the owner of the old homestead of the Swedberg family, "Sweden." Although Moraeus must have been intimately acquainted with the professors in the medical faculty, in which Cartesianism continued strong, and may thus have awakened some interest in natural science in his pupil, it is likely that Swedenborg's studies at this time were in the classical line, if we are to be guided by the evidence of his school-books, two of which have recently been found, editions of Suetonius and Diodorus Siculus, which were in Swedenborg's possession in 1703 and 1705, respectively. We are therefore not without grounds for supposing that the turning-point in Swedenborg's university studies falls within the period 1703–1709, when he must have become intimately acquainted with those professors whom he mentions in his letters written immediately after his graduation in 1709, on which occasion he defended a classical disputation. This, however, does not necessarily give us any indication of

Swedenborg's chief interests at this time, for he neither wrote the disputation, nor was he in all probability responsible for its selection, as the presiding professor, Fabian Törner, the Royal and Ordinary Professor of Theoretical Philosophy, was devoted to philological disputations.

In the light of Swedenborg's earliest letters and other evidence we have good ground for supposing that his brother-in-law, Eric Benzelius, junr., with whom Swedenborg resided after his father's removal to Skara, was the man who guided the future investigator's steps into the scientific path, calling into activity that strong inclination for the study of nature which was presently to exclude nearly all other interests. The general course of Swedenborg's earliest thoughts and studies may therefore be defined as having been *first* theological, *secondly* classical, and *thirdly* scientific, so that when he left Upsala in 1709 he was determined to pursue the study of the sciences in a wide sense, and he first directed his attention to physics, astronomy, mathematics and various technical branches. Even at this early period he was fascinated by the brilliant discoveries of the "Swedish Archimedes," Christopher Polhem, who later, upon Swedenborg's return from England and the continent to Sweden in 1716, introduced him to King Charles XII, and recommended in a memorial that the young investigator, who, he says, deserved to be appointed to a professorship, should rather be made an assessor in the Royal College of Mines, where he would be of greater use on account of his bent for mechanics. During Swedenborg's absence the plague had raged at Upsala in 1710, and was the occasion of Eric Benzelius' calling together some of the professors to meet at the Library once or twice a week—the students having dispersed—in order to discuss literary and scientific subjects. Thus, in November 1710, nearly two centuries ago, did the *Collegium Curiosorum* lay the foundations of the future Royal Society of Sciences. That Swedenborg took a lively part in this movement, by means of letters and papers, which were read at the meetings, is shown by his correspondence with Benzelius.

Swedenborg's early theological and classical interests were fundamental in his development, and we can trace indications of their influence in the pious reflections concerning the Deity, Creator of the Universe, which are to be found in his scientific works, and in his poems and in the exalted poetical tone of much of his prose. But if we glance at the list of his works during the period 1700 to 1745 we find that most of the works and memorials are of a strictly scientific and

technical character. There are indeed not lacking, besides poems, contributions of historical, economic, and technical content; but the great mass of the material produced by Swedenborg during this period, which we believe faithfully portrays his real interests, consists of contributions to natural science, and to philosophy and psychology, the latter especially during the last quarter of the period, from 1734 to 1745.

Having now secured a general basis for the present discussion, let us next see how Swedenborg passed from his earlier physical philosophy into general cosmology and later into his profound studies of the body and the soul.

The list of Swedenborg's works from 1716 to 1722 shows that his attention was chiefly and successively directed to mechanics, geology, physics, chemistry, metallurgy, and cosmology. The advocates of arm-chair philosophy might consider this to be a strange preparation for a psychologist; but viewed from the standpoint of modern physiological psychology it was just the right kind of preparation. By means of his early investigations Swedenborg received that indispensable quantum of experience and practical knowledge indispensable for true scientific work; but he received much more. His own view of what was necessary for a true philosophy of nature is stated by him in the beginning of his *Principia* to be experience, geometry and reason. And if we examine his printed works and MSS. we are amazed at the breadth of his experience, at the grasp of proportion in nature evidenced by his geometrical method, and at the profundity of his reasonings.

The general position of that great French philosopher, René Descartes, resembled that of Swedenborg; and the similarity between the two is more than superficial. In both we find a general conception of natural things as being spatial, temporal and corporeal, composed of small bodies of various shapes and sizes, and having vortical motions. Both philosophers conceive the living body to be a fine mechanical construction, animated by a non-corporeal principle or soul. The "human soul" of Swedenborg and the "thinking substance" of Descartes are not subject to space or time. The essential human is therefore non-corporeal in the natural sense, but it is nevertheless a substance, for it exists, and without here entering upon the similarities and differences of the definitions of substance given by Descartes, Spinoza, Swedenborg and others, they all agree that prime substances exist, no matter how they may

differ with regard to the doctrine of forms and modes. But whereas Swedenborg has a general conception of three planes of existence, the Divine, the spiritual, and the natural, which strongly reminds us of Descartes, whose psychology, it may be added, carried off the prize in a famous discussion in the spiritual world, Swedenborg differs fundamentally, on the one hand, from Spinoza, whose pantheism agrees with neither Descartes nor Swedenborg, and, on the other, from Kant, whose idealism and subjective explanation of time and space are radically opposed to their objective as well as subjective character, as defined by Swedenborg.

But to return to the cosmology of Descartes and Swedenborg. It seems very likely that Swedenborg's first point of departure in his earliest philosophy of nature was the *Principia* of Descartes, or rather that interpretative study of Cartesian physics and cosmology which obtained in Sweden after the great controversy. You will search in vain in Swedenborg's early works for any conception of the particles of matter and their motion in which the theory of vortices is absent. Now, why is it there? Descartes has a very different conception of the shapes of the particles from that first promulgated by Swedenborg; but even after his visit to England, during which he informs us that he read Newton daily, Swedenborg clings to the Cartesian theory of vortices and denies the Newtonian vacuum. Just in these points do Descartes and Newton differ fundamentally.

For the information of those who have not seen the discussions of these prime differences, which have appeared during the last two years in a number of short papers printed in various periodicals, I may here repeat the main facts which illustrate the fundamental opposition between Descartes and Newton, and Swedenborg's relationship to their physical theories.

The theory is at least as old as Democritus, which conceives of the universe as consisting of atoms moving in a great empty space or absolute vacuum. Introduced into modern physics by Gassendi and Boyle, the theory of atoms was successively developed by Descartes and Newton in two irreconcilable directions. Descartes discusses in his *Principia* the subdivision of matter into various grades and kinds, but denies categorically the possibility of a vacuum; the spaces between the particles are always filled up by smaller particles *ad infinitum*. Descartes, however, refused to go further and explain how we are to pass from extended particles to particles non-extended, and

from them to the Infinite, the Divine. He is just as dogmatic about it as any mediæval scholastic. But Newton cuts the Gordian knot at one stroke. He says that it is most reasonable to suppose that God in the beginning created a great number of small, round, impenetrable particles in an absolute vacuum. But now the difficulty arises that you cannot establish any communication between two particles separated by a vacuum or space; if they are so close together that there is no space between them, of course they are one particle, and logically carried out you would, if all the particles were in communication with one another, have only one particle, and then you would be a Spinozistic pantheist. No doubt Swedenborg's former Professor of Astronomy, Petrus Elvius, very well expressed the feelings of many physicists two hundred years ago, when he wrote to his former student, in 1711, that Newton's theory was a pure abstraction and non-physical. In our days we should say that with Newton's conception of corpuscles in a vacuum the mechanical explanation of gravitation is an impossibility, for how can masses attract or repel one another, if there is nothing between them? This crux led to the absurd doctrine of action at a distance, which is not dead even in our days.

Now, Swedenborg took sides in the very beginning, or rather, he never held any other view than that which, while accepting a multiplicity of particles, at the same time denies the vacuum. The varieties of natural phenomena he explains by the various positions, figures, weights, and motions of round particles, only the lower sorts of particles being in reality angular. And when he comes to the question of the relation of the highest grade of particles to the Infinite, he does not, like Descartes, avoid the question, nor like Newton simply maintain that the particles were created, but holds that they were created by the Infinite by means of the natural points, which are intermediates between the Infinite and the finite.

It is so important to obtain a clear idea of this general position of Swedenborg, this conception of the greatest series of all, produced from the Infinite by the intermediate natural points, and progressing by compositions right down to air, water, and solids, that he who desires to grasp fully how Swedenborg later on approached the purely psychological problem, must first grasp the general theory of the *Principia* of a series of geometrical particles which by compositions constitute the substantial and material universe. He defines the subject again and again, always in greater detail and

with greater clearness from 1716 to 1734, writing, besides shorter papers, three separate works on the *Principles of Natural Things*, in 1721, 1729, and 1734. The most wonderful thing in these works, and in the whole series of MSS. and printed works of which they are the backbone, is the doctrine of influx and discrete degrees, of which there are evidences as early as 1715, in the *Festival Celebration on Charles XII.* This statement may sound strange to students of the later theological works which constitute the Writings of the New Church, in which we are taught that the doctrine of degrees is the *sine qua non* for the understanding of any subject whatsoever, and therefore it was necessary to reveal it, because the knowledge of it was lost. But both of these positions agree, for while Swedenborg very clearly develops the doctrines of discrete degrees and influx as applied to natural, geometrical, spatial and temporal substances, in his scientific works, he never understood the discrete degree between the natural and the spiritual until the eyes of his spirit were opened. The evidence proving this is so abundant that it is astonishing that any students of this subject should fail to see it. For again and again, when discussing the soul in the works dating from the *Lesser Principia* until just before the *Economy of the Animal Kingdom*, Swedenborg defines the soul as being geometrical, mechanical, finite ; for at that period he considered everything finite to be mechanical and geometrical, and therefore the soul was also subject to mechanics and geometry. But this was only the preliminary stage, for as early as 1736 Swedenborg had remarkable dreams, and we are told in the *Spiritual Diary* that he was for some years taught by dreams. In the earlier period, for example, in the MS. *De Mechanismo Animae et Corporis*, and in the second part of the work on the *Infinite*, treating of the same subject, it is quite evident that he still considered the soul to be a very pure organic form on the plane of the highest substances of nature. After death it is purified, and thus comes into the heavenly state, but in the *Economy* he has already got so far as to wonder whether the soul is *beyond* that substance, whether the soul is *in* that substance instead of being the substance itself. Also we find in the *Economy* the doctrine of the two suns, the spiritual and the natural, and in the *Worship and Love of God*, especially in Part III, we find, after Swedenborg's spiritual eyes had been opened and his special preparation in spiritual things had begun, not only the doctrine of the two suns, the rays of the spiritual sun putting to flight those of the natural sun

but in that grand panorama in which the fates and destinies of the universe are represented before the vision of the first-born pair, two great belts appeared about the spiritual sun, the centre of creation; in the inner belt appeared human faces, in the outer those of animals. The poetry of this work is, in our opinion, unsurpassed, and we know that the essence of poetry is truth. In the theological works, whose revelations Swedenborg repeatedly and solemnly declares are not the result of his investigations, but the result of inspiration from his Divine Master, we find not only that there is a body, the temple of a spiritual and immortal soul, but the degrees of both body and soul are described in the greatest detail. We are, however, not considering the details of psychology, but the universal principles which make it the queen of the sciences and the link between them and the supernal heights of spiritual philosophy and theological truth.

The steps by which the human mind, when examining its own constitution and functions, passes from exterior to interior degrees, is illustrated in the most marvellous way by Swedenborg's progress in his search for the soul, that wonderful story which exhibits his gradual transition from the basic field of geology into the realm of theoretical physics and further into the kingdom of the soul, the human body. We cannot attempt a detailed analysis of that progress on this occasion, but let us at least touch the mountain-tops in a rapid flight.

In a remarkable letter, dated Rostock, September 8, 1714, Swedenborg sent Eric Benzelius a list of the discoveries and inventions upon which he was engaged. Among them one item stands forth in sharp relief against his reference to the flying-machine, submarine ship, universal musical instrument, and other astonishing proposals, namely, "A method of ascertaining the inclinations and affections of men's minds by means of analysis." There is the seed of the future psychology. In passing, it may be remarked that Swedenborg's titles of works are often strikingly suggestive of the progress of his intellectual development, for he employed titles which meant something; they are a sentence, not a short colourless set of words giving no key to the contents of a work, as is so common in our days, when the convenience of the classifier in libraries is often consulted in preference to the instruction of the reader. Observe further the title of this article in the *Dædalus Hyperboreus:* "A proof that our vital essence consists for the most part of small vibrations, that is, tremulations." Here we have in a

nutshell the mechanical theory of psychology which Swedenborg later developed, in 1719, in a little work read and discussed at meetings of the Royal Society of Sciences at Upsala, and also handed in to the Board of Health at Stockholm: "Anatomy of our most subtle nature, showing that our motive and vital essence consists of contremiscences." Both of these highly interesting papers have been issued in the little work *On Tremulation,* edited by the Rev. C. T. Odhner, and published at Boston in 1899. There we see the theory of the nervous system as a series of interior bodily vessels, the containers of the nervous juice, taking definite form. Next we find in the MS. *De Mechanismo Animae et Corporis,* which the learned editor of the *Documents concerning Swedenborg,* Rev. Dr. R. L. Tafel, and the compiler of the admirable *Billiography of Swedenborg's Works,* the Rev. James Hyde, both consider to have been written before the work on the *Infinite,* such remarkable headings as these:

"The sensations of any animal depend on a continuous or connected structure; on motions perfectly natural running through that structure; on the transmission of the motions from an attenuated to a denser medium; and on the enclosure of the parts forming the structure.

"There may be an excessive amount of tremulation, which may cause disturbance in the continuous or connected structure.

"The soul is governed by laws; and by mechanical laws; and it can be investigated experimentally by mechanics and geometry." And he continues: "No one can deny that the soul is created: that it is finite, and not infinite. If it is not infinite but created, it must be finite; for whatever is created cannot be infinite, and whatever is not infinite must be finite. It must be spacial and have form, or possess the similitude or appearance belonging to space and form; therefore no other laws are possible to it except those that pertain to mechanics and geometry; if not, there will be something of the infinite in it; something of the uncreate. If it be governed by laws, they must be such as arise out of geometry; therefore the soul is natural. The angels must know the nature of these laws. Why should they not, since the soul is angelic? Wherefore the soul cannot know in this state its nature and magnitude."

And further: "The rational soul consists of the actives of the first and second (finites): these form little spaces; and around them are surfaces of passives or finites. The soul is

most highly active, not unlike the first element in which are enclosed actives of the first (finite); but the actives of themselves are incapable of giving rise to any form unless they are enclosed in spaces. Therefore (the soul) must have a surface when it goes forth, which must consist of second finites. The actives thus enclosed and formed into a surface must be united and constitute a continuous expanse, the surfaces being thus associated together. Therefore there will be a meninx or, as it were, a highly attenuated membrane in which the actives will be enclosed. Thus we have the soul in the whole and in every part. Such a membrane is bound to be highly active and elastic; for the enclosed actives are the cause of elasticity, just as in the elements. The reason and cause are the same, consequently the effect is the same; therefore it is highly elastic; in it there lies hidden, as it were, primary elasticity.

"The soul is the chief component of the body.

"There is a diffusion of the soul throughout the whole body.

"But especially does the soul pervade the entire brain, there being no part of it where the soul is not present, both in the cortical and the medullary parts, and also in the osseous parts. Whatever there is in the brain terminates in the soul, on which account the soul invests all the mechanical parts, and thus acts by compression and dilatation upon the organic parts and mechanism of the body.

"When man dies, the soul lives because it cannot perish; for it is of such a subtle nature that it cannot decay or be destroyed by fire, or air, or in any other way; therefore it is permanent.

"By death and putrefaction a great part of it perishes; that is, on being separated from the connected structure it follows the putrefied parts.

"The soul after death becomes more and more in course of time a (self-contained) whole; separating itself from the grosser parts, just as the blood does; when it can become a continuous organism and without its (?) vesture continue to be a permanent unified entity.

"The ultimate which thus remains is the soul, which in process of time separates itself from the grosser matters, and finally unites to form the living soul.

"By the medium of angels it thus comes into Heaven; without their means I know not whether it could thus live; therefore it is carried into Heaven by the angels when it has undergone its purification.

"When the body dies, the whole of it, together with the very membranes, becomes flaccid, whence these highly attenuated substances can detach themselves more and more, since all the parts are fluid; and at length they withdraw in such a way as to become a (self-contained) whole, in which (case) the actives in part coalesce; and in part being separated, they disclose the complete soul that has now (?) become a (self-contained) whole, which could not have been separated from the rest of the earthy matters and been purified unless it had necessarily come together in this way when the remaining (gross parts) were dissipated: neither is it harmful for some parts to be separated therefrom; what is ultimately left is still the soul."[1]

Thus closes this remarkable MS., which occupies a unique position in the series of Swedenborg's works, since it shows how Swedenborg, in passing over from cosmology into psychology, applies to the explanation of the soul the very same mechanical and geometrical method which he had previously employed in analyzing the inorganic universe, for he naturally attempted to explain the microcosm by the same principles of mechanics which he had used in analyzing the macrocosm. Every one must admit that the above discussion is very different in quality not only as compared with the theological works, but even when compared with later scientific works. The student of the theology is inclined to say: Why, the soul here described must be very similar to that limbus or border consisting of the purest things of nature, which remains after the death of the body!

Coming to the second part of the *Infinite*, which also treats of the "Mechanism of the Intercourse between the Soul and the Body," we find essentially the same argument. The soul is declared to be finite, not infinite; it is amenable to laws, and to mechanical laws, because there are no other laws applicable to finite things; and the soul is extended because all finite things are extended; all communication consequently must take place by contiguity, and no mutation can happen in the natural sphere without motion. Finally the seat of the soul is now specified more particularly; for whereas in the MS. work the whole brain is simply stated to be the seat of the soul, Swedenborg now says: "In the cerebrum we have the pia mater, a very fine and visible membrane covered with innumerable blood-vessels, and which ramifies again and again, and detaches tendons of the finest make, as

[1] The above quotations from Swedenborg's work *De Mechanismo* will be found in the Photolithograph MSS., vol. iii.

well as an exquisitely delicate contiguity of membrane; all which dip into and pervade the cerebrum, and ultimately pass in a still more highly attenuated and subtle form into its very substance, first into the cortical substance, next into the medullary, in which latter, therefore, we see the most manifest signs of the ramification of membranes. And inasmuch as similar substances are found in nearly every part of the cerebrum, and also of the cerebellum, and in the medulla oblongata throughout, so we conclude that the soul resides particularly in the cortical substance of the cerebrum, and partly also in the medullary, where these exquisitely subtle membranes, from the structure of the organ, can run connectedly from particle to particle, and likewise above, around, and within every particle of the above substance." Here then is the statement, as early as 1734, of the seat of the soul in the grey substance or cortex of the brain This doctrine is later developed in the most wonderful way, as has been shown by Professors Rudolf L. Tafel, Max Neuburger, Gustaf Retzius, and O. M. Ramström, and we may add that it is frequently referred to in the later theological works. We also find in this work of 1734 a further development of a doctrine which had been previously stated in the MS. "There are membranes in the human body to receive all the motions of the elements," for "the membranes are formed geometrically, with exquisite precision, for the reception of the motions existing in the elements." This doctrine is in reality a development of that early theory of tremulations or contremiscences, the first hints of which, according to Swedenborg's own testimony in his letters, were received from Descartes, Baglivius, and Borellus.

In the opening lines of the short paper, *The Way to a Knowledge of the Soul*, Swedenborg says that several years had elapsed since he first conceived the design of working out the problems of *rational psychology*, or of investigating the essence and faculties of the human soul and internal senses. But the difficulty and immensity of the subject made him cautious. It is matter of common knowledge that he later on elaborated the essential portions of the scheme in great detail in the *Economy of the Animal Kingdom*, and in the *Animal Kingdom*. The MS. *De Anima*, the text of which was edited by J. F. Immanuel Tafel, also throws additional light upon the same series of writings. But, in viewing the pile of MSS. and printed works, I feel that in this case also the difficulty and immensity of the subject indicate caution in attempting to deal with it.

In conclusion, I desire to express my profound conviction that the beautiful doctrine of the relation of the elements of the universe to the membranes of the body, an application of the *Principia* philosophy of the active and passive to the human frame, which doctrine reaches a high pitch of development in the *De Cultu et Amore Dei*, that magnificent poetical rendering of Swedenborg's system of science, philosophy, and psychology which constitutes the close of his scientific labours and the connecting link with the later theological works—that the doctrine in question is on the verge of receiving a wonderful confirmation in the present development of the sciences of histology and physiological chemistry. By an unforeseen path the old questions of the relations of fluids and membranes in the animal economy are once more coming to the front in the progress of modern physiology and psychology, and we may expect to find that in no province of investigation did Swedenborg exhibit greater penetration than in the discussion of those intricate problems in which his labours as a scientist found their climax and conclusion.

THE SPIRITUAL WORLD NON-SPATIAL YET ORGANIC

By Mr. J. Howard Spalding, London.

No one who has felt the force of the idealistic interpretation of physical sensation—as expounded, for instance, by Berkeley—can have much difficulty, I think, in accepting Swedenborg's doctrine that the spiritual world, notwithstanding its apparent objectivity and the perfection of the sensations to which it gives rise, is devoid of fixed space; or, at least, in seeing that the doctrine is perfectly intelligible and within the range of possibility. It is universally admitted that we *know* nothing but our sensations; and the analysis of sensation, even as a phenomenon requiring for its interpretation a dualistic universe, shows that all our sensations are occasioned by vibrations in the ether and other media, which traverse the nerves to the sensories of the brain, where, and where alone, sensation exists. It is some modification of the molecular structure of the brain, therefore, which is the immediate occasion of sensation; and, if that state of the brain were produced by an internal stimulus, we should have an apparently external world produced around us in all the

convincing reality of the world we know through our senses. But as, on this hypothesis, it is the mind that perceives through the intermediation of the brain, we may carry the analysis a step farther and say that if the state of the mind, when in the act of sensation, were brought into existence by Divine creation, as Berkeley supposed, we should perceive an apparently external world around us exactly like that which we perceive through the senses; and such a world would furnish all the uses in the development of the human mind which the external world, as it is commonly interpreted, is able to perform. This analysis derives additional interest from the fact stated by Swedenborg, that in the spiritual world any and every event which has taken place during a man's earthly life, even though it had vanished from his conscious memory, may be reproduced from his memory with all the vividness and detail which it possessed when it was first enacted. Indeed, we have only to imagine the appearances of the spiritual world projected into a lower degree of mind, and there fixed—that is, rendered independent of the spiritual states of the percipient—to have all the phenomena of sensation which we know to exist in this world.

It is not my intention, however, to raise the question whether Swedenborg's system of spiritual philosophy implies, or is consistent with, an idealistic interpretation of the phenomena of physical sensation. My sole object, so far, has been to show that the appearances of the spiritual world, whether they be visual, tactual, or other, present no difficulty to an idealist; and should present none to any one who has carefully analyzed the process of sensation, and who also believes that the universe is from moment to moment maintained in being by its Creator, or, in other words, is perpetually created. I assume, therefore, that in respect to mere sensation in the spiritual world no difficulty is occasioned by the fact that that world is non-spatial. The difficulty which has presented itself to my mind, and of which I desire to offer a tentative solution, is this. We are not only required by the spiritual philosophy of Swedenborg to believe that in the other life the appearances of external nature are as real to the senses of angels and spirits as are the phenomena of the natural world to us; but that the spiritual world as a whole and in every part is also truly organic; that the forces which actuate it descend from God through their specific and appropriate channels just as really as do any of the influences which reach our minds through the agency of the bodily senses, or the forces which seem to be generated in the body,

and actually pervade it in every part. In a word, the question is, "*How* can the spiritual world be non-spatial and yet organic?"

On neither of the statements implied in this question need I spend any time. It will be admitted that the positive form of the implied proposition, "The spiritual world is non-spatial and organic," is absolutely fundamental to Swedenborg's spiritual philosophy. Without both branches of the statement the system would fall to pieces. Yet it seems by no means evident how the latter part of the statement can be consistent with the former. I am not aware that the difficulty has anywhere been distinctly dealt with by Swedenborg. An answer must be sought, therefore, by means of an induction from general principles.

In order to bring into clear light the precise nature of the difficulty, we must go back to the Primal Cause. God Himself is supremely organic. His *Esse* or Substance is His Divine Love, out of which all things in the spiritual and natural universe are created. His Form is His Divine Wisdom, which is Order itself and which issues forth from His Divine Love and is one with it. From this cause it is that the natures of men and of all animals are constituted by their affections, defined and manifested in their thoughts—which are, indeed, nothing but their affections in form; or forms originating in and constituted by their affections.

Organization, therefore, is identical with Order; and genuine Order is the construction of a mind or congregate of minds according to truth which is formed out of, and intrinsically *is*, Good. The essential foundation and origin of Order is Love; and the question we have proposed may, therefore, be more precisely stated thus, "What is the quality of Love which enables it to become organic?"

To answer this question we need to discover, if possible, in what organization essentially consists. We have seen that it is identical with Order and with concrete or embodied truth; but these synonyms do not help us in our quest. We should be aided in our search for the true answer if we could discover some universal element in natural organization; for the normal path of enlightenment is through natural truths to those that are spiritual. On this point I have not succeeded in getting any clear information from scientific authorities. They tell us that organization depends on structure, and localization of function, and on the existence of various tissues into which the animal body may be analyzed; but as to what may be the universal element of all structure, or whether

there be any such element, they are silent, so far as my very limited means of research have extended. It is true they say that all the tissues arise out of cells; but cells are highly organized bodies, and we want, therefore, some element more universal than this. I venture to suggest that all organization depends on the capacity of a living body to form structures of the nature of walls out of its own substance.

It must be remembered that throughout the whole range of life there are always two elements involved, the static and the dynamic; the one, relatively permanent and resisting; the other, relatively active and changing. The static is the habitation, the dynamic is the inhabitant. And it is always, at least in the organic world, the inhabitant that forms the habitation in which it afterwards lives. There is something, therefore, prior to and more important than the living wall, namely, the substance that forms it, lives in it, and maintains it in being.

We may begin our examination of the structural value of walls on the lowest level; for the doctrine of correspondence accustoms us to look for illustrations of spiritual verities even in inanimate things. It is clear that the buildings which man constructs for habitation, industry, and other purposes consist of nothing but walls; understanding by the term not merely the upright erections we usually call walls, but all structures which perform the uses of a wall, which are, to keep out, to keep in, and to support. Thus roofs and floors are just as much walls as the vertical erections we usually call so. Pillars are walls for support only. Windows are walls constructed to admit only light. Curtains and blinds are movable walls, which enable us to admit or exclude light at will. Doors have no meaning except in connection with the walls in which they are placed, and of which, when closed, they form a part. Stairs are a series of floors supported by vertical walls. A chair is a floor, supported by walls, and with a wall at the back to lean against; and so on. The illustrations might be multiplied indefinitely.

Similarly, in organic nature we find every minutest part clothed with a skin by which it is separated from other associated structures, and at the same time so intimately conjoined to them that no part can be affected without in some measure affecting all other parts. The digestive, vascular, and respiratory systems are carried on by means of tubes and vessels, which are walled structures; and the nerves, whether or no they are tubular in the ordinary sense, are evidently functionally so—just as an insulated telegraph wire is:

otherwise the nervous energy would not travel safely to its destination. The cell itself, which is the primitive constructional element of all the tissues, is a complicated framework of walls and fibres, perhaps of tubes; and were it not for its capacity for adjoining itself to similar cells by its outer wall or skin no tissue could be formed. It would appear, then, that physiological structure depends chiefly if not entirely on the power of cells and, ultimately, of the substances from which cells originate to form living walls of various kinds.

It is not necessary for the purpose of our present inquiry to assert that *all* organization depends on walls. It is sufficient if we are entitled to say that any entity which possesses the power of forming walls or boundaries out of its own substance is capable of developing an organic structure diverse and complex according to the variety of the walls it is able to construct. This assertion, I conceive, can be safely made; and the question we are considering may, therefore, now be stated in a still more definite way, namely, "Can Love or affection form boundaries, limits, or psychic walls?"

The moment we put the question in this form the answer, I think, becomes clear. One of the most universally recognized facts both of psychology and common experience is that one affection can exclude or inhibit another; or, in other words, form a barrier against it.[1] Thus fear may totally inhibit a man's normal regard for the welfare of others, and reduce him to a state in which the mere instinct of self-preservation completely dominates his mind. Contrariwise parental affection may inhibit personal fear, and fill the most timid creature with the undaunted courage which we attribute—not altogether correctly, perhaps—to the lion. Punishments of all kinds derive their efficacy from the fact, to which common experience testifies, that apprehension of consequences may form an effective barrier against inclinations which, without such safeguards, would be indulged. Conscience is nothing but a wall or series of walls erected out of affections against impulses which are recognized as evil. The point need not, I think, be laboured. If organization depends on walls, then affections are capable of organization.

[1] If the inhibition be regarded as a temporary paralysis of one affection owing to the violent excitation of another, the generalization would not, I think, be affected. We should then have to substitute for the 'erection' of a barrier the temporary collapse of some limit or wall which normally enables the two affections involved to work independently or conjointly and the consequent submergence of the one by the other. Inhibitions may, probably, be occasioned in both ways.

REV. LEWIS FIELD HITE, M.A., [*p.* 169
Professor of Philosophy, New Church Theological School,
Cambridge, Mass., U.S.A.

It is true that this general conclusion does not of itself enable us to realize with any vividness the extreme complexity of the organization which must exist in any single mind, or any aggregate of homogeneous minds forming a corporate spiritual body or Society. But this need not disturb us. If we had no knowledge of anatomy we should be totally unable to conceive the almost infinite organic complexity of the human body which is needed to produce the simple, superficial motions which, in the ordinary way, are all we know of its activity. But in the case of the emotions we have not, in our present state of existence, even this inadequate visual perception to guide us. We are conscious of them only as a most general sensation, comparable to the sense of muscular strain, due to the internal sense of touch, which we experience when we move a limb, and which we might still feel if all the external avenues of sense were closed. Besides, what we may call the psycho-chemical composition of the emotions, by which products are evolved which appear totally dissimilar to their constituent elements, is as yet an almost unknown science. The complexity of the organization of the mind, in our present low state of spiritual perception, inevitably escapes us. We perceive its mass-motions only. It is sufficient for our purpose to know that since affections can form walls they are capable of organization; and that as the ruling love in every man differs from that of every other, and this love modifies all the subordinate affections which are derived from it; and these are susceptible of endless modification by composition, no limit can be assigned to the complexity of the organization of which the individual or corporate human mind is capable.

AFTERNOON SESSION

ULTIMATE REALITY

By the Rev. Lewis F. Hite, M.A.,
Professor of Philosophy, New Church Theological School, Cambridge, Mass.

Ultimate Reality is the proper designation of the subject about which philosophy is peculiarly concerned.

In assigning me this subject, therefore, the Congress is asking that I present my views on the central theme of

philosophy, and yet I am not sure that this effort would be the natural response to the present occasion.

I presume there is on the part of this assembly a general agreement as to what ultimate reality is; and accordingly I am expected to make some comments on what we all have more or less definitely in mind. In other words, I take it for granted that among students of Swedenborg there is complete agreement as to the doctrine that God is the only really existing and self-subsisting being in the universe. So, then, we may say at once, God is the ultimate reality, and our thoughts thus pass from the realm of philosophy to that of theology.

But I do not interpret my task as identical with that of dogmatic or even systematic theology, and I am sure you would all be disappointed if I should content myself with merely reciting Swedenborg's familiar doctrines about the nature of God and the world.

Indeed, the mere recital of these doctrines would raise questions of interpretation of the most profound and far-reaching kind. If, for instance, we should say God is love and wisdom, and add that love and wisdom are the very and only substance and form, we make an assertion that goes to the very bottom of metaphysics. If, now, we note that the point of this doctrine is philosophically that substance and form are love and wisdom rather than that love and wisdom are substance and form, we see that it presents a new view of substance and form. So, too, if we affirm that God is love we merely repeat Christian tradition, but if we assert that love is God we announce the fundamental thesis of a new revelation —a thesis which gives new significance to the word love, and transforms the theological doctrine that God is the Ultimate Reality to the philosophical statement the ultimate reality is love. It seems inevitable, then, that I must, with what light I have from our doctrines and from history in general, undertake to say what Ultimate Reality is as I conceive it. First, then, let us glance at history.

From the days of the early Greeks, all down through the ages to the present time, the intellectual energies of the master minds of our race have been directed to the underlying problems of existence and of life. The human mind is so constituted that the facts of ordinary experience inevitably suggest deeper meanings; but the practical exigencies of daily life also demand a knowledge of the relations and connections of things sufficient to ensure the success of foresight, purpose and method. In this way the intellectual and the practical

needs of mankind have combined in infinitely various fashion to bring order and system into the field of raw experience. Success and failure, trial and error, furnish the workshop for sharpening wits and acquiring skill. The fit and the unfit, the deceptive and the certain, the changing and the permanent, the varying and the constant, the apparent and the known, tend to fall into familiar and convenient groups which henceforth serve the purposes of both practical and intellectual control and progress. Under these circumstances, as the inevitable outcome of practical and rational intelligence, the distinction between appearance and reality was established, and the notion of ultimate reality gradually came to be defined. Ordinary practical life is satisfied with relative stability and permanence in the objects with which it has to do. The timber and stones, the bricks and mortar, the iron and steel with which we build our houses, keep their shape and stay where they are put sufficiently to ensure the correctness of calculations made generations and centuries ahead. On the other hand, trees and plants, and especially animals, exhibit changes of growth, decay and movement such that no certain prediction about their future condition at any given time is possible. To-day the grass *is* in the field, to-morrow it *is* cast into the oven. The very predicate of existence, when we press it too hard, becomes ambiguous and uncertain. We cannot say *is* and keep to it. The "is" passes inevitably and almost instantaneously into "was." The predicate of existence, under such stress and strain, becomes infected with change and variety, so that it seems, superficially at any rate, impossible to assert existence without qualification in any case whatsoever. The granite rocks and the everlasting hills appear to the eye of the geologist as momentary aspects of all-pervading change. Πάντα χωρεῖ καὶ οὐδὲν μένει, as the wise men of old said. All things are in a flux; nothing *is*. Thus we see that the practical stability of things becomes, on further acquaintance, merely relative. But even relative stability suggests degrees, while practical convenience forces the task of distinguishing the more from the less stable, thus setting up a serial arrangement which would, upon the supervening of intellectual motives, be carried back to the least and forward to the greatest degree of stability. Such a scheme of things occasions the rational demand for absolute stability on the one hand, and the entire lack of stability on the other. These demands are satisfied by that which is changeless from any and every point of view, and that which is ever changing. The motives herein concerned are genuine and constant

human motives, ever operative and ever effective. They lead in one direction to the conception of the real as that which is absolutely abiding, superior to all change and yet the ground of all change. In the other direction they lead to the conception of a universal, ceaseless flux.

These motives were conspicuously present in early Greek philosophy. The world of humanity was already very very old when the Greek race first appeared upon the stage of history. General views of the world and of life had become common property, so as to be motives and subjects for literary treatment. Intellectual interests had begun to stir the minds of men with larger and deeper questions than those which the needs of ordinary practical life made urgent. This was the situation when Early Greek philosophy entered upon its unique and brilliant career. In the older mythologies and cosmogonies, the world of phenomena had been reduced to order and system. Οὐρανός, Γαῖα, Ὠκεανός, and the eldest of the gods, Ἔρος, appear as representing the beginning. Thence follows the generation and order of things down to the present world of ordinary observation. Here that which is original, the beginner and the begetter, appears as the *ultimate reality*. The prime source of things and the powers of begetting, or production, are looked to for explanation of the actual world, and in mythological language a complete explanation was given. But such explanations did not go very far in accounting for the actual present behaviour of things. Attention was accordingly more and more directed to the existing order, and interest was transferred from questions of origin to questions as to the present. The question, What the world was at the beginning? was changed to, What the world is now? as it stands. When, therefore, Thales, 600 years B.C., declared that all things came from water, he gave expression to a new view of the world. For when Anaximines said the world was mist, when Anaximander said it was the boundless, when Heraclitus said it was fire, and Empedocles that it was earth, air, fire and water, and Anaxagoras that it was a mixture of an infinite number of infinitely small elements or seeds, they all gave substantially the same answer, namely, that the world is a single homogeneous body, or a mixture of such bodies, and all things are made out of this body or mixture. Reflection upon these various answers, and criticism of them, led to the recognition of other general features of the world besides background and things. Heraclitus directed attention to all-pervading change. For him the world is a process, and fire is the body

which constitutes this process. Fire is the reality; the things which we observe are mere stages and appearances which this ever-living fire undergoes and presents. The philosophy of Heraclitus makes the fact of change central, fundamental and real. Parmenides, on the other hand, directed attention to the fact of permanence. To ordinary observation, things abide and also change. But, said Heraclitus, look a little closer and you will see that everything changes. Nothing really remains the same from moment to moment. In the upward movement of the flame and the unceasing motion of the flowing river, we have the true types of the real nature of things.

Parmenides, however, insisted that if you look still closer you will see that change is mere appearance and presupposes the permanent. A thing must persist through its changes if it is to exhibit change at all. That which persists in and through change is the real in things. The real world, then, is a changeless, homogeneous, continuous body.

These two views of the world recognize and emphasize two fundamental characters of experience, and they have maintained themselves in all subsequent metaphysics. The effort to reconcile them forced early Greek philosophy to its final position. It was seen that the real world must be in some sense abiding; it was also seen that variety and change must in some way belong to it. The issue between permanence and change, oneness and variety, was definitely sharpened by the conflict between the uncompromising monism of Parmenides and the thoroughgoing Pythagorean pluralism. According to the latter doctrine, the world is number, and things are made out of numbers, not, of course, abstract, but concrete numbers. But, if things are made up of a number of parts, then the parts themselves would be made up of still smaller parts, and so on *ad infinitum*. In other words, anything, however small, would be made up of an infinite number of parts, and it would follow that if these parts have any magnitude whatsoever the thing would be infinitely large, if no magnitude the thing would be nothing. So that everything would be at once so small as to be nothing at all, and so large as to be infinitely large. It was these consequences which the famous undying paradoxes of Zeno brought out with inexorable logic and precision. From Zeno's criticism it was seen to be practically necessary to put a stop to division, and to assume real bodies so small as to be no longer capable of natural division. It was in this way that early Greek thought reached the atomic theory. Taken separately, these

invisible and indivisible bodies had all the properties of the Parmenidean one, and could be real in the Parmenidean sense; taken together, they provided for change and variety by their movements and combinations. This theory forces Heraclitus, Pythagoras, and Parmenides to terms, and in a way satisfies their demands. The world, for this theory, consists of atoms, motion and void. Solid bodies moving in empty space, give us, by their combinations, the many and various things of the actual world. The *real* world, then, is *matter in motion.* This is the answer which early Greek philosophy gave, and for scientific purposes it is the most definite and satisfactory answer that has ever been given. We are left in the dark as to the fate of the atomic theory during the transition period from early Greek philosophy to that of Plato and Aristotle, but the penetrating analysis of sense perception, summed up in the dictum of Protagoras, "Man is the measure of all things," laid the basis for a new departure, and gave rise to the problem of knowledge which has held the centre of the stage in philosophy ever since. Protagoras left philosophy with the simple question, If in sense perception we know directly only our sensations, has knowledge a real object, and what is that object? This question cannot be answered in terms of the atomic theory, for the atom is clearly but a minimized object of sense perception, and so is, strictly speaking, a sensation, no more real than any other sensation. Like other sensations, its existence depends on the state of the perceiver, and therefore it has no independent reality. This seems to be the course of thought which led the classic age of Greek philosophy to the prompt and final rejection of the atomic theory and to the search for reality in another direction. Socrates emphasized the practical certainty of knowledge as presupposed in conduct. Man is characteristically and essentially a moral being, whose real nature consists in expressing purposes. But a purpose is, from one point of view, an ideal, or a concept. The business of the moral life, therefore, is to form clear concepts and express them in conduct. Plato lifted such concepts into a purely abstract realm and gave them an independent existence. The doctrine of ideas was thus substituted in philosophy for the atomic theory. The *real world* is now the world of *independent ideas,* rather than independent atoms. The world as it is for thought takes the place of the world as it is for sense. In this way the search for the abiding, for that which is ever one and the same, was ended, since it is the very nature of a concept to be unalterable,

to persist in all its applications, and to furnish the eternal standard by which all expressions and embodiments of it are to be tested. It is the eternal truth. The logical and epistemological grounds of this doctrine are so firm, and so deeply embedded in human experience, that it has occupied the field of philosophy ever since as the only successful rival of materialism, and as the mainstay and justification of all the highest aspirations and strivings of men. Thereafter, the ultimate reality was sought not in the sensuous world, as had been the case in early Greek philosophy, but in the supersensuous. The things of the spirit of man were placed above the things of the body. Spirit, not matter, was the eternal substance of things. This has been the contention of all idealistic philosophies down to the present day.

Aristotle did little to modify this doctrine, but he did much to work out its consequences in detail. It is far from my intention to attempt any critical summary of Aristotelian philosophy. This philosophy was in some respects the unique intellectual achievement of the race, and was the culmination of what was, perhaps, the race's supreme intellectual effort. Never was the human intellect so stirred as during the period spanned by the lives of Socrates, Plato, and Aristotle. A page of Aristotle's metaphysics taken at random gives a bewildering impression of the almost desperate intellectual struggle of the Greek mind of his day. Aristotle's achievement was the complete organization of human science on the basis of a marvellously simplified conceptual apparatus. The scheme of things which he constructed on this basis was transmitted to posterity, and has become the web and tissue of our common knowledge, so that Aristotelianism is but another name for our modern common-sense. If, however, we look closely at the metaphysical character of Aristotelianism, we shall see that the system is determined by two fundamental influences: the habits of language and the requirements of abstract thought. We have already seen how the practical needs of mankind led to the analysis and reconstruction of experience, and how early Greek philosophy followed out these motives in the construction of the atomic theory. Aristotle, on the basis of results so reached, immensely extended and systematized the field of inquiry, and carried forward analysis and reconstruction under the stimulus of motives more purely intellectual. We know from "the Metaphysics" that Aristotle read early Greek philosophy as a more or less blind attempt to work out the notion of cause, and he saw in it a greater or less approximation to his own doctrine of the four conceptions

of cause. It appeared to him naturally that early Greek philosophy was concerned especially with the material cause. Whereas if we take his system as a whole, it is evident that he placed the emphasis on the efficient cause, and his philosophy took the form of a system of development. But the notion of development itself presupposes that of formal cause and also that of final cause. The final cause in turn presupposed a universe complete and perfect in idea, in whole and in part, and the formal cause, as original essence, by its own development realized this ideal. To Aristotle, the Heraclitean flux was the process in which and by which essence developed its specific quality and its own proper form. The form, as end or terminus of movement, was also object of striving, and as such already present in its completeness as idea. It is obvious that we have here a carefully thought out attempt to give in biological terms a specific meaning to Plato's notions of expression and participation of the idea. In this view, the universe already and eternally exists, spread out to view, one and complete. Movement and change, birth, growth, decay and death, are merely transitions from point to point within this static whole. The world of variety and qualities thus dissolves into the changeless body of the Parmenidean *one*, and we need to take only one step more to enter the mechanical world of pure mathematics. This outcome was made inevitable by the presuppositions of early Greek philosophy which Aristotle, on the basis of language and common-sense, appropriated without criticism. Early Greek philosophy, as we saw, began with the idea of a common background to the body of phenomena, and the term used to designate it was φύσις (nature). This notion of φύσις as the material background of all the phenomena of the actual world was a permanent and, it would seem, an ineradicable achievement of human thought. It is the ultimate basis of all forms of materialism, and has its origin in the peculiar function of the intellect itself. It may take the form of Democritean atoms, or the centres of force of Boscovich, or a homogeneous ethereal medium. In all these forms it is the outcome of analysis which has its beginning in the ordinary operations of the intellect in practical life. Practical life demands stable objects, objects that remain self-identical, unchanged throughout any given operation, and achieves success by selecting or constructing such objects. All our intellectual operations primarily serve our practical life by discovering or by establishing order among such objects. The essence of this intellectual activity consists in detaching from the concrete life the

character of permanence. In the course of time, this element of permanence is universalized and made the presupposition of all thought and the basis of all life. Thus universalized, it is what the Greeks called *φύσις*, and what we call nature.

But the process of analysis and abstraction does not stop here. The element of permanence is individualized and located in a system of conceptual objects, giving rise to what we call the world of concepts, in Platonic language the world of ideas. The further the process of abstraction is carried, and the more the concepts are simplified, the nearer the approach to a mere system of relations in the homogeneous field of empty space. In other words, we are led by this process to a world which takes on more and more the character of a rigid mechanical system. This is precisely the result achieved by the human intellect in the development of Greek philosophy from Thales to Aristotle. Aristotle's god was the apotheosis of the element of permanence, the unchanged and the unmoved cause of the world. His universe was a static whole, already complete, in which succession and quality were reducible ultimately to bare moments, and time itself was only a one-dimensional and reversible way of taking points in the spread-out field of space. Any critical estimate of Aristotle's philosophy must do justice to the various and complicated human motives which everywhere pervade it, but we must look for the key in the aims and methods of his analysis. A pupil of Plato for twenty years, and, as a consequence, a master of dialectic and of historical movements, his gigantic intellect swept the field of nature and of experience with penetrating insight and marvellous comprehensiveness. He gathered up, sifted, and re-cast the results of human thinking even though already presented by the consummate genius of Plato. The outcome was determined by one single controlling conception, the conception of subject. This conception leads back to the *φύσις* of early Greek philosophy, and now appears under the twofold aspect of material cause and of essence; the universal underlying background of phenomena; *ὑποκείμενον*; the *substantia* of the Latin; what we English know as substance, the bearer of qualities, activities, changes; in short, the subject of predicates. Whatever may be the metaphysical value of that which we call substance or thing, we are indebted to Aristotle for the clear and definite conception of it, and we do not have to look far for his motives and methods of procedure. We have seen that the world of practical life, with its concrete objects in all their variety and changes, falls a victim to the processes of analysis and abstrac-

tion which are demanded as the necessary conditions of practical success. Stability, plasticity, movability, divisibility, self-identity, independence, are the properties which practical success demands and utilizes, and these are precisely the characters which the intellect discovers, abstracts and transforms into a conceptual world. No doubt these processes would go on under any conditions where the will and intellect could co-operate, but the supreme agency for promoting the accumulation, preservation and organization of such experience is the faculty of speech and the use of language. But the development of language itself is due to the intellectual functions of attention, discrimination, selection —in a word, analysis and abstraction. Language is a very simple but effective means of preserving the results of these processes. When a character is once noticed and a name is given it, the name then serves to recall it and so preserve it. Language thus serves practical convenience and acquires practical importance. It is a shorthand method of reproducing and forecasting experience. But it is equally serviceable for intellectual purposes, both as a register and a shorthand method of thought. This dependence of intellect upon speech gradually develops a habit which is further cultivated by reading and writing. So that ordinary thought is in such wise symbolic that mere words are used in the place of conceptions, and systems of word-building become themselves objects of construction and reflection. The result is, we have in due course the science of grammar and that marvellous creation about which the science of grammar revolves—the sentence. The sentence is the unique embodiment of conceptual thought. The subject represents the oneness and changelessness of the concept, and the predicate represents the various qualities and relations of the concept. The two simple elements of the sentence thus acquire metaphysical and logical value. Thought proceeds, as we have seen, by severing an observed character from the concrete experience in which it is found. This tree is green, that tree is green, and so on indefinitely. Here "tree" stands for the abiding background, and "green" for the constant character. We have various terms for designating this distinction. In grammar it is substantive and adjective; in metaphysics it is thing and quality, substance and form, or substance and attribute; in logic, subject and predicate, term and relation, subject and object. Now, observe that both subject and predicate are concepts, and the concepts are united by a third concept which we call a relation. The two concepts in this relation become subject

and predicate, and constitute what we call a judgment. The judgment, expressed in words, is the sentence.

This analysis was required to emphasize the fact that thought proceeds with concepts, and language is the product of thought; but thought itself has developed historically as the servant of practical life, and has been controlled by this use. Nevertheless, after having reached a certain stage of development, thought became itself the object of independent interest, and it may be said that Greek philosophy culminated in the triumph of this interest. In other words, Aristotle's logic was the characteristic achievement of Greek philosophy.

In the light of the foregoing discussion we are now able to see that the inevitable outcome of Aristotle's philosophy was empty formalism, a reduction of all concrete experience to abstract conceptions. His analysis of experience stopped with the identification of concepts, and his logic was a formal treatment of concepts *in abstracto*. It inhered in his undertaking that the further he went in the investigation and treatment of formal thought, the further he left behind him both the concrete experience and the practical life from which he set out. This criticism, however, does not in the least depreciate the value of his achievement. It merely calls attention to its proper character and function in the development of philosophy. Nor does it ignore the fact that Aristotle's conception of reality was far richer than that which the logical outcome of his method indicated. We need to be reminded that Aristotle was not fully conscious of his task as metaphysician. He accepted in the main the results of Early Greek philosophy. He adopted without thoroughgoing criticism the presuppositions of ordinary thought and common-sense. He saw in language the natural, characteristic, and fundamental expression of reality, and in the sentence the fundamental constitution of reality. He overlooked the fact that thought is only one of the functions of life, and that it is subservient to life, that it springs out of concrete experience and is developed primarily out of purely practical interests. Under the requirements of practical and social life, it produces the elements of speech and the form of the sentence. In this way the sentence acquires metaphysical value, and for ordinary thought determines metaphysical theory. Aristotle unwittingly and uncritically took the grammarian's point of view, and made the structure of the sentence the basis of his metaphysics. His logic developed from this starting-point. The grammatical subject represented the ultimate reality, and the predicate represented the various

states, qualities and activities of reality. This at once commits us to all the consequences of intellectualism, and in the end, as we have seen, to materialism.

Subsequent history shows how these consequences were brought out and adhered to. It is unnecessary to trace the course of the post-Aristotelian schools, or to point out that the Stoics and the Epicureans, working with Aristotelian conceptions, ended in constructing a purely mechanical universe. The one bright spot in the metaphysics of this period was that created by the transcendent genius of Plotinus, who for the first time in the history of philosophy subjected the nature of thought to systematic and penetrating criticism, and who made out clearly its instrumental and derivative character. As against Aristotle, he denied the ultimate reality of thought and affirmed that of feeling. Unfortunately, he had only Aristotelian terms and concepts to work with, and these were inadequate for the expression of his insight.

Scholasticism was a revival of Aristotelianism, and moved strictly within Aristotelian metaphysics. Descartes, Spinoza, and Leibnitz had the advantage of the new scientific movement, but they, too, accepted as fundamental the subject-predicate metaphysics of Aristotle, and endeavoured to build their systems upon it. Descartes made a deliberate attempt to turn his back on tradition and make a fresh start, but he very soon fell into the Aristotelian net. The self-assertive, self-certain ego which Augustine had made fundamental in metaphysics, Descartes cast into the mould of Aristotle's subject-predicate formula, and proceeded to develop his system in terms of Aristotelian logic and upon the lines of familiar tradition. His *res cogitans* and *res extensa* were simple reaffirmations of the old doctrine of substance; and the two worlds, the spiritual and the material, were merely new editions of our familiar friends, the sensuous and the supersensuous realms of Plato.

Spinoza developed the doctrine of substance in a more strictly systematic way, and for the first time brought out the intellectualistic and materialistic implications of that doctrine.

Leibnitz, with the possible exception of Plotinus, the greatest metaphysician since Plato, made some significant alterations in the traditional conception of substance, and by his doctrine of monads freed it in a measure from materialistic implications. But even Leibnitz, with all his genius for analysis and reconstruction, fell a victim to intellectualism. His monads turn out in the end to be little more than positions in space.

His universe is one in which nothing ever really happens. The monad, and the universe which it reflects, are what they are, fixed and eternal. Nothing from the outside can affect or change the monad, and there is nothing in the universe which is not already in the monad. In other words, the ultimately real thing in the universe is the monad and its states, and these states are eternally self-identical and changeless. Whatever may be said of this outcome, Leibnitz has the lasting credit of carrying out (in the realm of ideas) to the logical conclusion the fundamental conceptions which inhere in any subject-predicate philosophy taken as an ultimate metaphysic. Every philosophy which makes substance its fundamental category ends, as first Spinoza and after him Leibnitz showed, in reducing the universe to states of this substance. The universe is, then, truly describable by propositions which express only analytical judgments. The so-called synthetic judgments are merely premature and provisional forms of thought, which are convenient for the time being, but which must in the end be set aside and replaced by the analytic. In other words, all characters, qualities and properties which are expressed by predicates, inhere in the subject and are evolved from the subject. These characters, as such, exist eternally in the subject, and our universe falls back into a static, self-identical repose. This follows for the reason that both substance and quality are abstractions and, as such, are colourless, changeless, self-identical concepts. Such a universe is the product of abstraction, and was already prefigured in the first attempts of mankind to use intellectual processes in the service of practical life, where distinction, separation, analysis and reconstruction are necessary for success.

We see from this rapid survey that philosophy chose from the first the intellectualistic trend, that Aristotle forged its fundamental conceptions, and that Spinoza and Leibnitz worked these conceptions out to their logical consequences.

After Leibnitz, philosophy either went off into psychological and epistemological excursions, or became severely self-critical. Criticism found its best expression in the Kantean episode. The constructive efforts of German idealism may occupy us later, as will also the more recent metaphysics of the present day.

It is now time to fix our attention upon a figure and a doctrine which appeared in the world's intellectual firmament almost without historical associations or historical introduction. The figure was that of Emanuel Swedenborg, and the doctrine was his doctrine of love.

In spite of his sudden and unique appearance upon the world's stage, however, Swedenborg had some historical relations which must be constantly borne in mind; otherwise we are liable to misread him. The fact that he wrote in scholastic Latin puts him in the current of Aristotelian tradition, since, as we have seen, scholasticism is only Aristotle in mediæval Christian dress. In using the language of scholasticism, Swedenborg naturally adopted the terms and conceptions of Aristotelian philosophy. This gives his language the superficial appearance of abstract conceptualism and almost mechanical dogmatism, which has misled many casual and especially unsympathetic readers. Nevertheless, we have here the key to his historical position, and it is necessary to acquire a competent knowledge both of scholasticism and of Aristotle as a preparation for reading him with critical accuracy.

A more direct relation to history is indicated by the fact that he was educated at Upsala during the period of the Cartesian controversy, and was thus brought under the spell of the revolutionary spirit, and imbued with the fresh intellectual impulses of the age. His frequent references to Aristotle, and his careful study of Wolf, suggest that he was at home in the earliest and latest phases of traditional philosophy; but there is little indication that he ever subjected philosophy in whole or in part to systematic criticism. On the other hand, it seems to have been his habitual method to take the terms and conceptions as he found them, embedded in the language and thought of his day, and use them for his own purpose without caring to keep strictly to their historical meaning. So that in a general way we may consider Swedenborg's philosophy as resting, in language at least, rather loosely upon the basis of scholasticism and common-sense; understanding by common-sense the popularized results of previous philosophies. When, therefore, we approach the study of Swedenborg we must expect to meet the usual mechanical metaphors of ordinary speech and popular science, as well as the technical terms and conceptions of a highly refined philosophical vocabulary. At the same time we must be prepared to see a free use of these as instruments, and be ever careful to interpret them in the light of his own point of view and purpose. Our rapid sketch of the history of philosophy has shown us that the notion of ultimate reality has followed two apparently diverse tendencies, the one ending in the atomic theory, and the other in a system of abstract ideas. Around the former

have gathered all the interests of materialism, and around the latter the spiritual ideals and aspirations of civilized mankind. But the tendencies are really identical, for the atomic theory is only a convenient stopping-place in the process of analysis which, when carried out rigorously, ends in a system of mere positions in space, and this is precisely the outcome of pushing the analysis of ideas to the extreme. It is really due to misconception and confusion that idealistic and spiritual interests have centred about a conceptual world. Such a world is as far as possible removed from the actual spiritual world. The spiritual world, like the kingdom of God, is within you. We must therefore turn our backs on any and every form of conceptual world whatsoever when we approach Swedenborg for his answer to the question: "What is ultimate reality?"

Swedenborg's ultimate reality is in the strictest sense spiritual. His spiritual world was made known to him in concrete living experience. The divine nature was revealed to him in the depths of religious feeling and intuition. The world of nature was to him a mirror of the divine and the human. God was to him the perfect type of concrete life, equally removed from Stoic pantheism and the transcendental, abstract wisdom of Aristotle. Ultimate reality was located by him not in a far-off conceptual region, but was directly sought in the infinite complexity, variety, and richness of experience as it comes. Already, in the *Principia*, Swedenborg had come to see the futility of attempting to discover reality by processes of analysis. He saw that logical and mathematical entities carry you into a field where analysis breaks down, and where the complexities of life again assert themselves as the real background. Again, in the work on *The Infinite*, although the demands of reason are freely and fully conceded, rational analysis gives place in the end to the direct affirmation of personal life as the properly apprehensible reality. Later, in *Divine Love and Wisdom* (229), we have the definite and explicit statement that analysis does not arrive at any simple entity such as the atom or ultimate particle, but discovers greater and greater complexity.

Indeed, throughout the period of his illumination Swedenborg consistently assigned to rationality as its true function the task of taking what was given to it in spiritual perception, and in this light establishing relations between the various kinds and degrees of life, especially between natural and spiritual life. According to him, the substantive element in life is not thought, but feeling; the element to which we

refer such functions as effort, striving, want, satisfaction, fulfilment, joy, and the like. Life in its first intention is, for reflection, that more or less undifferentiated mass of awareness, that sense of existence, of well-being, of efficiency, of fulness and wholeness which is the common background, source and fountain of all particulars, and of all development. Swedenborg sums up the situation and points us to the central and fundamental feature of experience in the opening number of *Divine Love and Wisdom*, by the simple formula, "Life is love." Swedenborg's doctrine of love is a new conception in the history of human thought, and philosophically it is the most important of all the fundamental conceptions which mankind has framed. All of his other great doctrines grow out of it, and it is destined to modify fundamentally the philosophy of the world.

In the opening number of *Divine Love and Wisdom*, and earlier in *Arcana Cœlestia*, Swedenborg notes the distinguishing mark which separates experience into the twofold aspects of immediate, unreflective, massive on the one hand, and the mediate, reflective, articulate on the other. The former he designates by the term love, and makes the critical observation that men have not known what love is, though they have known of its existence, as the use of the word itself testifies; and he explains that men have not known what love is because, when they reflect upon it, they always observe some particular state or affection of love, some quality distinguished and selected, and so dissociated from the total mass; or, as we shall say later, externalized and objectified; but of the love in its immediacy and wholeness, no idea, mental image or representation can be formed. That love is life may be argued from the fact that the word can be used with the names of all the functions of life, as the love of eating, of music, of children, of nature, of God, and so on indefinitely; and, further, it is demonstrated by the simple experiment of taking away all the affections of love, and observing that the activities of life cease.

Swedenborg further remarks in criticism of the whole course of philosophy down to his own day, that for lack of knowing what love is men have made one or the other of two fundamental mistakes: either maintaining that thought is life or that action is life. The former is the view of Aristotelianism and in general of all forms of intellectualism—in short, the view of the traditional philosophy; the latter of all schools of materialism. Swedenborg corrects both of these philosophies by affirming that thought is the first effect of

life and action the second effect. He goes on to make a distinction in the grades of thought, and says that, strictly speaking, the first effect of life is the thought or perception of ends. This is inmost thought, or the highest degree of thought, while thought of means and thought of results, of accomplished facts, are of relatively lower grade. This passage (No. 2) is important, not only because of its effective criticism of historic opinion, but because it gives us the key to Swedenborg's philosophical point of view and method. For there is implied in this statement his doctrine of end, cause and effect; a doctrine which gives us the fundamental conceptions of his metaphysics (*Divine Love and Wisdom*, 167–72).

We have already seen that scholasticism was the outcome of the recovery and appropriation of Greek thought as presented and transmitted in the works of Aristotle. We have also seen that Aristotle's fundamental conceptions centred about the notions of subject and predicate, or the notion of substance. The notion of substance also plays a large part in Swedenborg's philosophy. Ordinarily, he uses it in the familiar scholastic context, and when treating it abstractedly helps out his meaning by the regular scholastic terms, *esse*, *ipsum*, *unicum*, *causa prima*, and others. Aristotle, we remember, undertook to interpret Early Greek philosophy as a search for causes, and he reduced the conceptions of cause to four. But he finally resolved the notion of cause into that of substance. Nevertheless, he set out in the *Metaphysics* to show that *prima philosophia*, the highest and most complete stage of knowledge, is the knowledge of causes. This idea was transmitted to scholasticism, and reappears variously in Swedenborg. But both the notion of substance and the notion of cause were used by him concretely in a way that gave them virtually a new meaning, and it is in his doctrine of love that he gives them this concrete meaning.

In the case of substance this is done most effectively, perhaps, in *Divine Love and Wisdom*, Nos. 40–46, where he identifies substance with love. The point of this teaching is not so much that love is substance as it is that substance is love. In other words, we are not to identify love with the abstract conceptual entity ordinarily termed substance, but rather we are to take the word substance with its whole meaning, and apply it to that concrete living experience which we know directly, immediately and intimately as love. This doctrine, so interpreted, constitutes a new epoch in the history of philosophy, for according to it we turn in our

search for reality from the world of abstract conceptions at once to the actual, concrete world of living experience, and this experience, in all its fulness and variety, we now call love. The whole body of Swedenborg's doctrine, and the philosophy contained in it, is literally an exposition of the nature of love. In this doctrine love has many aspects; psychological, moral, religious, theological and metaphysical. Our present purpose limits us specifically to the metaphysical. The proper starting-point for the treatment of this aspect is the development of love in the series of end, cause, and effect.

We saw that Aristotle, in treating substance as essence, constructed a theory of development wherein the two notions of cause, the formal and the final, played the chief rôles. But Aristotle's method led him off into the consequences of abstract conceptual and mechanical analysis, where all life was in the end excluded.

Swedenborg adopts the notion of end, but keeps it concrete and living by conceiving it as a present state or affection of love. Any such present state, when made focal to attention and *ipso facto* objectified, carries with it the quality and meaning of the love from which it springs, and so is representative of the love. In other words, the love sees its own quality and meaning reflected, revealed and existent in the state as in a specific instance or form. When the state or affection, with its quality and meaning, is taken as thus representative, the meaning suggests fulfilment, and this becomes an object of desire, striving, and anticipated satisfaction. The formation and existence of such states are characteristic of life. The process involves all those functions which correspond to the words awareness, consciousness, feeling, emotion, effort, striving, longing, change, activity, force, movement, and a host of others, which are all summed up in the word love. All these qualities lie behind the state and seek expression in it; and it belongs to the intimate and constant nature of love to project and constitute such states. It is its creative function, a function of self-propulsion, generation, limitation, definition. To use a gross figure of speech, though one consecrated by Plotinus, love is the total mass of feeling or awareness which bubbles up and bubbles over in those forms of experience we call particular states or affections. To use a figure less materialistic, love is the body of spirit which possesses all the qualities it reveals, and these, as they emerge in distinct consciousness and are observed and identified as persistent or frequent, and defined as uniform, receive names, and so become fixed, established and commu-

nicable features of experience. Such qualities come to view out of the depths of love unceasingly and with endless variety. Being present, living, self-conscious, self-identical affections of love, they are its self-representative images, in which the love sees its own longing for self-realization reproduced in the definite striving of the particular affection. In this relation, the affection presents to the love the opportunity for further fulfilment; and as offering such fulfilment the affection is an end. The character of fulfilment is fundamental in the processes of life. Around it cluster innumerable functions which are, as it were, polarized with respect to it. The elements of desire, longing, striving, effort, and such-like, are distinguished from those of satisfaction, contentment, enjoyment, realization, fulfilment, achievement, and so on. The latter are set over against and contrasted with the former. In this way the characters of nearness and remoteness arise as contrasting features of experience. With nearness goes the feeling of intimacy and immediacy; and these, as properties of the former group, are referred to the basic, undifferentiated total background which, in the language of our present discourse, we call the active, generating, particularizing love. This reference is made by such words as "I," "me," "subject," "subjective." On the other hand, the group of characters clustering about the element of fulfilment are more and more dissociated from the primary mass and consolidated into an independent group. The process here involved we denote variously by such words as "project," "externalize," "objectify"; while of the group thus distinguished and set off we use, among others, the words "objective" and "object." Meanwhile, all that we are really doing is simply observing the affections of love and making distinctions in its activities and functions. One of these functions, inhering in the essence of love and co-extensive with its being, is the function variously termed seeing, perception, awareness, consciousness, thought, wisdom, and so on almost indefinitely. Love is throughout and always pervaded by and possessed of this function in the whole and in every detail. It is that function whereby two states of love are mutually present to each other, and share each other's qualities, but at the same time preserve each their own self-identity and also their difference from each other. It is by virtue of this function of knowing that the mysterious parting of experience into subjective and objective aspects takes place. The act of knowing is simple and original; it cannot be reduced to lower terms; but the very act itself

generates those characters of contrast, otherness and remoteness which we denote by the words objectivity and object.

With this conception of love let us return to the consideration of ends. An affection, projected and constituted an end with the characters of remoteness, self-identity and independence, is a perceptive mass having perceptive relations with the total love of which it is a present, living, particular state. The total love sees in the end the fulfilment of its own purpose, and the end sees in the love the conditions of its own fulfilment. The total love strives to fill the end with its own immediate presence, satisfaction and enjoyment; the end strives to gather into itself all the insights, satisfactions, enjoyments, and activities of the love. This situation is exemplified in the biological field by the behaviour of a simple cell, which is ever putting forth parts of its mass in the form of projections. Among the many various projections it selects one, and then gradually moves its whole mass into this terminus or end. This is the type of all movement in the organic world. The earthworm extends its forward extremity and then draws the rest of its body toward it, and in this way moves from place to place. More highly organized animals put forward certain parts called limbs, and then draw the body into the new position. In this way bodily movement is effected. But mental movement is precisely similar in type. The mind, spirit, love, projects a part of its mass in what we call an end. Then it moves into that end, and thus makes the end a new centre. This we call making progress, moving to a new position, or fulfilling a purpose. In the case of man, and presumably the higher animals, this mental motion is so co-ordinated with the bodily functions that it gives rise to bodily motion. In other words, the mind carries the body with it in the fulfilment of purposes. The behaviour of a simple cell is thus seen to be typical of the nature and movement of universal life, that is, of universal love. The word *end* is properly used for the terminus of this movement. In Swedenborg's language (*Divine Love and Wisdom,* 167) it is called an end because it is the end of this movement of the state of love.

We now pass to the second stage of the end. As a state to be reached, the end is an idea. It is, as we have seen, a particularized affection of love which has emerged and become disengaged from the immediacy of feeling by the act of attention, and thus set off from the love. This whole process is summed up in the word objectify. Any state is objectified, made an object, by the mere fact of fixing atten-

tion upon it. It is thereby distinguished and selected from among the numberless constantly emerging states which occupy the conscious threshold. An idea, then, is a state of consciousness which is of the essence of love in that as a self-projection of the love it retains the qualities of the love; in general, the qualities of feeling and perception. The love is therefore self-represented in the idea. But an idea tends to develop relations to other states of love, whether these be other ideas or mere vague feelings, or more pronounced states, such as emotions, longings, desires. Between the idea and all such states there is mutual reference and participation by virtue of their common ground in the love and their relation to the love as its self-representatives. The mutual relations between the idea and the love as exhibited in the totality of such mediating states constitute the field of articulate consciousness, or, to use the specific term, the field of love's wisdom. In fact, it is perhaps the most fundamental definition of wisdom to say that it is love's self-representative function; for the field of this function is the system of ideas projected as perceptive units from the total love. When in this field one of these perceptive units is selected as, for the moment, or the occasion, the special embodiment of the meaning and purpose of love, this unit then becomes the vehicle of love's fulfilment, and as such is what we have called an end. But, evidently, in the passage to fulfilment, between the stage of want, desire, longing, striving, and that of satisfaction and achievement, there intervenes the field of ideas through which the love and the end co-operate in bringing about the fulfilment. The end selects within the field of ideas those which are referred to in its meaning and which seek embodiment in itself. The love with reference to the end chooses the same ideas as being contained within its purpose. At this stage the end exists as a system of ideas contained within a single purpose, and organized about the initial state whose meaning develops into this system. But this second stage of the end, or second end, is constituted of ideas which have the common feature of pointing to a situation in which the organization is complete, the meanings expressed, the desires fulfilled and purpose achieved. The affection originally projected and constituted an end is now no longer felt merely as a state to be realized, but the conditions of realization are actually present, and the affection is concretely existent and active in its sought-for context and environment. The end, therefore, exists successively in three stages: (1) As present affection whose meaning points to a

situation to be constructed by the group of ideas and affections in which the meaning would be fulfilled; (2) As the system of ideas included within the meaning of the affection and pointing to the situation in which that meaning would be fulfilled; (3) As the completely organized group wherein the affection and its system of ideas are concretely existent and active. In this concrete, active existence we have the fact of fulfilment.

If, now, we review this process, it is evident that the second stage arises, as a development of the first, in a context of elements which first come into the new relation by being selected as included within the meaning of the end; in other words, the end is self-represented in them. But these states in which the end at this stage exists are themselves developed out of the concrete mass of the total love as its self-representatives. They therefore carry with them the qualities of the love seeking fulfilment in the end. This relation to fulfilment we call, in common speech, "means." Further, it is evident that it is the collection and grouping of these subsidiary ends with reference to fulfilment that produces the concrete situation which is had in view from the beginning. This third stage, then, is brought into existence by completing the process of fitting together the relatively dissociated and independent elements of the second stage into the organized context of the initial affection. The result is properly termed a product, and the efficiency of the process that leads to the result is expressed by the word cause. In ordinary language the relation between these stages, the second and third, is expressed by the terms cause and effect. The three stages may be designated respectively affection, idea, fact. Affection is the present, immediate element of feeling; idea, the more or less dissociated elements to be grouped; fact, the concrete existence of the affection in its new context, the completely organized group.

This is Swedenborg's doctrine of end, cause, and effect; and it is a doctrine which grows directly out of his conception of love. With this conception in mind, we see the full significance of such statements as: "There are three things that follow in order, called first end, middle end, and last end; they are also called end, cause, and effect. These three must be in everything that it may be anything" (*Divine Love and Wisdom*, 167). Again (168), "The end is everything in the cause and everything in the effect."

As these three stages of love grow out of its inmost and complete nature, they must belong to it universally.

The processes of self-projection, self-representation, and self-realization which we have found to be the essential characteristics of experience as we directly and most intimately know it in our own personal life, we assume to be characteristic of all experience. If we look at the universe in the light of this view, we see that it is in the strictest sense the process of love. The processes of self-projection, self-representation and self-realization are everywhere going on. Assuming the truth of the nebular hypothesis, the planets of our solar system are in origin projected masses of the sun, and in the planets the activities of the sun are reproduced and continued. The earth is everywhere putting up from its mass the bodies of plants. Plants are for ever reproducing themselves in the form of seeds. Likewise animals. In the mental or spiritual world we see the perpetual processes of putting forth ideas and realizing ideals or ends. Production, reproduction, action, creation, life, are just names for the processes of love. In short, the universe is love. This being the case, the background of the universe, its core, what we otherwise call its source, first cause, or prime substance, is the total love in its aspect and capacity of forming ends of numberless grades of comprehensiveness. The most comprehensive would be the self-represented idea of the universe itself, in which the full nature and whole purpose of the love would be expressed. The variety, order and subordination of ends point to that character of love which can be adequately expressed only in an infinite system, a system in which self-propagation is the law. From this point of view love exhibits the character of an infinity of infinities. Among such infinities are the animal and plant series; also such series as the rational and moral life. It is as a member of such series, and as constituting such series, that the individual is a proper function of the universe, and is related to the universe as a whole.

Among the more comprehensive grades of ends, we distinguish the relatively free and the relatively fixed. Self-projected states of love may preserve, according to their meaning and purpose, a separateness and independence which allows only a relatively free context, which is developed largely from its own self-active nature. We call this realm in general the spiritual world. In our personal finite life we have something analogous in what we call the ideal world. In either case the characteristic is self-developing freedom. The total life of the spiritual world is the expression of one purpose: the purpose, namely, to represent and

realize particular states of love under relatively free conditions.

But the end thus constituted is pervaded with meanings which point to further fulfilment. The self-representative and self-realizing nature of love demands greater remoteness, otherness, independence, and self-sufficiency on the part of its self-projected states. Such states are self-representative in the measure of their relatively independent self-activity. This purpose of love is fulfilled in those self-identical centres which are organized in relatively stable groups. In this way a further comprehensive end is constituted, which has in view a compact organization of such centres and groups. This region we call the natural world. The natural world, then, is a second comprehensive end, differing from the end we have called the spiritual world by the fact that it is fulfilled under conditions of greater fixity, uniformity and self-identity. Thus we have three grades of ends, or three degrees of existence; the divine, the spiritual, and the natural.

The divine is self-represented in the spiritual and, through the spiritual, in the natural. This is the relation of correspondence. It is self-realized in the spiritual and, through the spiritual, in the natural. This is influx. The spiritual and the natural are self-projections of the divine. This is creation.

It would take volumes to work out in detail the various aspects of this doctrine of love, but we all remember that remarkable section in *Divine Love and Wisdom* headed, "There are three things in the Lord which are the Lord: the Divine of Love, the Divine of Wisdom, and the Divine of Use. These three are correlated with the three degrees of ends or end, cause, and effect."

We have in this statement doctrine about the constitution of the personal life universally, and it is doctrine about the constitution of ultimate reality. According to it, ultimate reality is personal life, and personal life is love.

The latest phase of modern philosophy tends to this conclusion, and the best efforts of modern philosophy, notably those of Mr. Bradley here in Oxford, and Professor Royce over the sea in Harvard, may be read as partial expositions of Swedenborg's doctrine of love.

Speaking, then, in the light of history and of doctrine, we may affirm that Ultimate Reality is Love.

INFLUX AND DEGREES

By Mr. F. W. Richardson, F.I.C., F.C.S.,
Public Analyst for the West Riding of Yorkshire and the City of Bradford.

The subject of my thesis, "Influx and Degrees," has been chosen for me by the worthy gentlemen who have organized the International Swedenborg Congress. I have not been loath to accept the task, though, in all faith, I have found it vastly greater than I had first imagined. As one who has passed from the old theology to the philosophy of the New Church, I am at least qualified by the desire to point out to others what I believe to be a more rational view of Creation and more helpful conceptions of man and the universe.

A third of a century ago if you had asked me "Who made the world?" I should have answered "God." If you had pointed out to me the existence of that side of Nature which, "red in tooth and claw," shrieks against the creed of the optimist, I might have replied, "The Devil made all this." I had not sufficiently realized that the archfiend of my orthodoxy was scarcely a being capable of devoting millions of years to the production of those evil forms which are the despair of all who seek to prove, not merely that "God's in His heaven," but "All's well with the world." Even the most advanced Christian philosophy of to-day seems to be strangely silent upon the question of man in his causative relation to the universe. Had I no other light to guide me, the way of the Maker would indeed seem dark—"An Isis hid by the Veil." If this Congress can indicate even to a few, a rational system of teleology, a doctrine of final causes which can bear the keenest inquiry, it will not have been held in vain. Well might Haeckel "reject the idea of intelligent and benevolent guidance chiefly on the ground of the facts of dysteleology" (McCabe, in *Hibbert Journal*, 1905, p. 748), that is, because of an overwhelming mass of evidence to show the truth that Nature not only abounds with wonders, but that it is also rife with apparent cruelties and wrongs; with carnage and contagion; as Voltaire declared long ago. A knowledge of the doctrine of "Influx and Degrees" as taught by Emanuel Swedenborg enables us to understand that the mind of man is commensurate with the universe, and is not merely the Shekinah or Glory Cloud of Deity; but also that Cimmerian or Plutonic realm from

which are spawned Nature's evil things; her earthquakes and destructive tidal waves; her pestilences and plagues.

As to his outward form, man is not merely the heir of the ages, he is just as much the product of an immeasurable past.

Professor Svante Arrhenius (*Worlds in the Making*, p. 218) thus quotes Richter—

"We regard the existence of organic life in the universe as eternal. Life has always been there, it has always propagated itself in the shape of living organisms."

"We may become accustomed to the idea that life is eternal, and hence that it is useless to inquire into its origin."

The Infinite Creator who is the same yesterday, to-day and for ever, whose purposes are from everlasting to everlasting, must always have been the creator of spiritual beings. The injunction, "Let us make man," refers to the eternal stress which has ever led and is still leading to the production of men. In the thought of Omar Khayyám, we need not fear "lest existence closing your account and mine shall know the like no more," for we believe that from the star deeps the Creator has poured untold millions like us, and still will pour. Swedenborg (*Earths in the Universe*, § 3) has declared that the earths in the starry universe are the seminaries of heaven, and we believe that the sum of things is but one Divinely governed mechanism for the making of men in the Divine image and after the Divine likeness.

The time is ripe for a return to that supernal wisdom which declared (John i. 1, 3, 10) that "The Word was with God, and God was the Word; all things were made by Him, and without Him was nothing made which was made, and the world was made by Him."

In illustration of this declaration, Swedenborg (*Intercourse between the Soul and the Body*, III, 3) says—

"Those who deduce the origin of worlds from any other source than from the Divine Love by means of the Divine Wisdom fall into mistakes, like persons disordered in the brain, who see spectres as men, phantoms as luminous objects, and imaginary beings as real figures. For the created universe is a coherent work, from love by means of wisdom; this you will see if you are able to view the connection of things in order from first principles to ultimates."

In this manner Swedenborg introduces us to the consideration of two discrete degrees of the most fundamental importance: Love and Wisdom, The End and Cause; with a third and final degree, Creation as the Effect or Ultimate.

Love and wisdom find their counterparts in man as will and understanding, or affection and thought. These dual principles are separated by a discrete degree, that is, they are not united by such continuity as we see in light fading into darkness, or colour becoming feebler on dilution. The will to do and the understanding of the ways and means are connected by influx, by the desire flowing into the thought. By devious ways, love and wisdom become finited in "The Eternal Masculine and the Eternal Feminine"; that potent duality which all must recognize. Far be it from me to do more than refer to the sex worship of so many ancient peoples; the reverent recognition of the paternal and the maternal forces in Nature. An extensive literature enshrines the records of such a system existent in many lands.

Shelley (*Love's Philosophy*) saw this truth when he affirmed—

> "Nothing in this world is single,
> All things, by a law Divine,
> In one another's being mingle."

Swedenborg, in a work (*Conjugial Love*) which should mark an epoch, declares that in the marriage of goodness and truth lies the origin of all celestial, spiritual, and natural loves, and this union originates in the Divine Love and Wisdom. It may seem a very long way from these supernal attributes to the lovely little wayside flower, whose stamens and pistils proclaim a duality essential to the propagation of its species; yet we shall learn that these twofold forces finite or ultimate themselves in these lovely nature forms. On the lowest plane, the inorganic world, we see the same duality. The very atoms are "paired." Electrical phenomena present themselves in a dual aspect known for convenience as "positive" and "negative." Yet even these twofold affinities are but the shadows of other and higher creative dualities existing above and beyond, yet flowing into this material sphere.

The doctrine of the Trinity is exemplified in this philosophy of discrete degrees.

The Father,	The Son	and	The Holy Spirit.
Love,	Wisdom or Logos	and	Operation.
End,	Cause	and	Effect.
Celestial,	Spiritual	and	Natural.

The dual character of the mind finds its expression in the two divisions of the brain, the cerebellum and the cerebrum, one the seat of the passional, the other of the intellectual proclivities.

Dr. Bernard Holländer, in his *New Phrenology*, abundantly proves the truth of this division of the mental faculties.

Just as space of two dimensions having no substance is only a figment of the imagination, so, in order to exist, will and thought must finite themselves in physiological activity. There is no desire without thought, and there is no thought without corresponding activity in the cells of the body. A consideration of the doctrine of "Influx and Degrees" brings us into the realm of conflicting philosophies. Swedenborg (*Intercourse*, § 17) never deviates from his declaration that "Ends (*i. e.* motives or ends in view) are in the first degree; Causes (such as intellectual considerations) are in the second; and Effects in the third." I can illustrate this by my speech at the present time. I desire to convey instruction. I think how best to do this. My vocal chords set the air in vibration and transmit the message, the result of willing and thinking, to your ears. End, Cause, and Effect. In his work on *The Intercourse of the Soul and the Body* (§ 17) Swedenborg at once enters the arena: "Those who do not know these truths, and thus distinguish the objects of reason, cannot avoid terminating the ideas of their thought either in the atoms of Epicurus, the monads of Leibnitz, or the simple substances of Wolff. Inevitably, therefore, they shut up the understanding as with a bolt, so that it cannot even think from reason concerning spiritual influx, because it cannot think of any progression, for, says the author concerning his simple substance, if it is divided it falls to nothing. Thus the understanding remains in its own first light (*lumen*), which merely proceeds from the senses of the body, and does not advance a step further. Hence it is not known but that the spiritual is simply the natural attenuated, that beasts have rationality as well as men, and that the soul is a puff of wind, like that breathed forth from the chest when a person dies, beside other notions which are not of the light, but of thick darkness." In diametric opposition to Swedenborg's teaching we find that the materialists of all schools are advocates of the doctrine of Physical Influx. The old atomists, Democritus, Leukippus, and Lucretius, declared that the universe consisted only of atoms and empty space, all else was merely opinion. Lucretius, the Latin poet-philosopher, exclaimed (*Nature of Things*, Bk. IV, 497): "Search, and this earliest notion thou wilt find of truth and falsehood from the senses drawn, nor aught can e'er refute them." Also concerning "the soul and spirit"—

> "Hence prove we too, that both alike exist corporeal."
> —*Ib.*, Bk. III, 170.

The logical materialist must needs be a monist whose one universal substance is matter. Such a one regards the ether as an attenuated gas and disallows the existence of "discrete degrees." To his mind the gulf which apparently separates the metal lead from the all-embracing ether is spanned by continuous degrees, substances in varied stages of condensation or attenuation.

Later-day materialists of the schools of Büchner and Karl Vogt affirm that the brain secretes thought as the liver secretes bile.

The science of the last half-century has played strange havoc with the atomism of Democritus, which held sway for over 2,000 years. Even the sanctity of the atom, by its very name an indivisible material unit, has been invaded. Radium and radio-activity have changed all that. The atom is now very divisible indeed. It is simply a mass of electrons, and the electrons may consist of condensation *nuclei* in the ether; small whirlpools rotating at an enormous speed (Larmor). Not very long ago we were told that the ether was so light that some 144,000 cubic miles or so of it would be required to weigh a single grain. Prof. J. J. Thomson, in his Presidential Address to the British Association at Winnipeg, in August 1909, argued that the density of the ether attached to a corpuscle "amounts to the prodigious value of about 2,000 million times that of lead." According to this astonishing view, so contrary to our early ideas and to the recent teachings of such chemists as Mendelieff as to the lightness of ether, it is not surprising to find that Prof. Thomson also said that "in all probability matter is composed mainly of holes." It must be very disconcerting to materialists of the old school to learn that the substantiality of the matter which has always been their bedrock is only "the baseless fabric of a dream"; that matter consists mainly of holes.

To bolster up the doctrine of physical influx and to exclude any possibility of even a fragment of an immaterial soul finding its way into the human economy, it has always been the custom to grant unto the units of which matter is composed some vital and rational attributes. In quite a shameless way several continental biologists attribute directing and constructing powers to individual molecules. Vogt terms the ultimate particles "pyknatoms" and accords to them will movement of the simplest form. As a chemist and in a minor degree a physicist I can only protest against such an unwarrantable procedure. Truly has Dr. Sir Oliver Lodge (*Life and Matter*, p. 117) said: "Matter possesses energy in

the form of persistent motion, and it is propelled by force, but neither matter nor energy possesses the power of automatic guidance and control. Energy has no directing power." And the same author refers to the fact that Croll and others have elaborated this view. It behoves scientists of all schools to deprecate the teaching that material molecules or atoms have any power or guidance.

The molecules of carbon, hydrogen, oxygen, and nitrogen which long ago were parts of the inorganic world are to-day components of our material brains, raised, it is true, to the position of comrades in a complex system; but none the less the same molecules as of yore, and doomed to return to the same condition.

Prof. Tyndall (*Heat*, § 722) says—

"The matter of our bodies is that of inorganic nature. There is no substance in the animal tissues which is not primarily derived from the rocks, the water, and the air. Are the forces of organic matter, then, different in kind from those of inorganic? All the philosophy of the present day (1875) tends to negative the question, and to show that it is the directing and compounding in the organic world, of forces belonging equally to the inorganic, that constitutes the mystery and miracle of vitality."

To postulate of units in the aggregate what is denied to the units separately is surely to be guilty of rational suicide.

The philosopher Leibnitz, whom Swedenborg so adversely criticizes, was guilty of misdirection of thought.

The Leibnitzian monads were "entelechies" possessed of a certain perfection, and were themselves the sources of their internal actions. As we are built up of these self-determining percipient units no space is left for the freedom of the will, hence arises Determinism. Although Leibnitz's disciple Wolff allowed the monads and "pre-established harmony" to become submerged by other ideas, still the old and untenable Determinism remained.

We are dualists in the sense that we believe in the completely disparate or discretely distinct character of mind and matter; of the thought and the thing.

The mind flows into the material senses, and from the impressions it finds there it is enabled to add to its store of knowledge. All appeals to our five senses are but as the ringing of the house-door bells. We can admit or exclude the visitant. The tempted one can say to the bellringer of the senses what Edwin Arnold represents Buddha as saying to the personified seducing influence: "Avaunt; thou hast no part with me, falsest of man's foes."

Were physical influx to obtain, mere environment would make or mar men. Byron knew well that an excellent climate and sublime surroundings did not ennoble the people of Greece, that country so beautiful; "as if for gods a dwelling-place":—

> "'Tis Greece, but living Greece no more.
> So coldly sweet, so deadly fair,
> We start, for Soul is wanting there."
>
> (*The Giaour.*)

Sunshine does not necessarily make saints. Cold, rain and fog do not inevitably produce sinners. In the Dhammapada from the Buddhist Canon, men were told—

"The mind is the origin of all that is, the mind is the master, the mind is the cause."

Akenside (*Pleasures of Imagination*, Book I, 481, etc.) expresses the same grand idea: "Mind, mind alone (bear witness, Earth and Heaven), the living fountain in itself contains of beauteous and sublime."

Not the gulf which symbolically separated Dives from Lazarus is greater than that which yawns between the thought and the thing. Hence by no mere material thinking can man find either God or the soul. Just as flesh and blood cannot enter the kingdom of heaven, so neither can mere "three dimensional" reasoning clasp the "four dimensional"; despite Prof. Zöllner's efforts. Empedokles of old knew well what Tennyson's "Ancient Sage" proclaimed: "Nothing worthy proving can be proven, nor yet disproven," on the mere material plane, and we are urged to "be wise in this dream-world of ours, nor take our dial for our deity." Indeed Nature is but the dial of spirit. The Apostle Paul fully comprehended the discrete character of natural and spiritual degrees when he wrote to the Corinthians (1 Cor. xi. 14): "Now the natural man receiveth not the things of the spirit of God, for they are foolishness with him, and he cannot know them, because they are spiritually judged." So to the wise ones who wrote the Hindoo *Song Celestial*, or Bhagavad Gita, which declares (Govindacharya's Translation, ch. xiii. 34), "They attain to the Transcendent who by the wisdom eye ken the difference between matter (Kshetra) and soul (Kshetrajna), also do they attain deliverance from matter manifest." Affections and thoughts are the most real things to our minds, yet who has measured the temperature of a warm heart? or ascertained the height of a lofty aspiration? Only that system which includes all the facts of life in its purview is worthy of

the name of "philosophy." Darwinian evolution points to man, whom Herbert Spencer calls "the head and crown of things," as Creation's climax, and thinkers of all schools are agreed that the highest place must be accorded to the moral nature in man; in brief,—"the morals make the man."

Prof. Ernst Haeckel in an address on "Monism" before the Osterland Naturalists' Society in 1892 was fain to admit that "beyond all doubt the present degree of human culture owes in great part its perfection to the propagation of the Christian system of morals and its ennobling influence" (p. 66).

And in a moment of truly religious fervour he exclaimed (p. 87), "The True, the Beautiful, and the Good, these are the three august Divine Ones before which we bow the knee in adoration, in the unforced combination and mutual supplementing of these we gain the pure idea of God. To this triune Divine Ideal shall the coming twentieth century build its altars."

To this poetical outburst we can only say "Amen."

Is it not very evident that Haeckel, a veritable modern Goliath of Materialism, in his heart admitted that "the perfection" to which Darwin says all things in Nature tend, is moral perfection, the harmonious co-operation of goodness and truth resulting in the production of the beautiful? As the universe is undoubtedly one, as its laws must therefore be unifiable on all planes, we cannot escape the logical consequence that the moral order of the universe finds its counterpart in its physical order. In some way, therefore, the moral, non-moral, and immoral elements in universal human nature have a very definite relation to outward things —animate and inanimate. In Swedenborg's system of moral causation we have the true "monism," the grand unification of God, Man, and Nature. Goodness and Truth are indeed the *summa bona* of all man's seeking; but the world has yet to learn that the outward universe is merely a projection into the unconscious of these very forces, which have become mostly so inverted that good has become evil and truth falsity in form.

The earths in the starry universe are, as Swedenborg affirms (*Earth*, § 3), "for no other end than that mankind might have existence; for mankind is the seminary of heaven." Also (*Intercourse*, II), "The spiritual world first existed and continually subsists from its own sun, and the natural world from its own sun."

"The heat proceeding from this sun is in its essence love, and the light thence is in its essence wisdom" (*ib.* IV).

"Both that heat and that light flow into man, the heat into his will, where it produces the good of love, and the light into his understanding, where it produces the truth of wisdom" (*ib.* V).

"Those two, heat and light, or love and wisdom, flow conjointly from God into the soul of man, and through this into his mind, its affections and thoughts, and from these into the senses, speech, and actions of the body" (*ib.* VI).

Just as the sun's rays are the ultimate source of almost every motion which takes place on the surface of the globe (Herschel in Tyndall's *Heat*, § 107, etc.), and the origin of its life, so the spiritual sun is the source of the spiritual or mental life of human beings.

Man is not life itself but only a recipient of life, just as the globe is a recipient of solar radiance.

The whole operation of the complex mechanism we call "the human soul" results from the interaction of influx and capacity.

Man has not within him aught of the Divine Esse, that spark of Deity, as the Kabbalists and some later-day so-called "New Theologians" avow. Just as the diverse colours of flowers are due to the interaction of light with their substance, so the infinitely varied characters of men are due to the differences in the reception of ever inflowing spiritual forces.

Swedenborg vigorously denounces the idea that man has within him something of God's very essence. He says (*Intercourse*, IX), "From such a belief proceed innumerable fallacies, each of which is horrible."

Several years ago I read an account of some terribly immoral consequences of such a belief when carried to its ultimate in the case of certain Eastern potentates; fully confirming Swedenborg's denunciation.

It is interesting to note how thinkers have confused the inflow with the form which receives it. Coleridge in his "Aeolian Harp" asks—

> "And what if all animated nature
> Be but organic harps diversely framed,
> That tremble into thought as o'er them sweeps,
> Plastic and vast, one intellectual breeze,
> At once the soul of each, and God of all?"

Here the beauty of the analogy is spoilt by the pantheistic notion that the influx itself is both the soul of the recipient and God himself. Even the writers of the *Song Celestial*, the famous Bhagavad Gita, knew better—

> "Receive and strive to embrace the mystery majestical.
> My Being creating all, sustaining all, still dwells outside of all."
> ARNOLD'S Translation, Ch. IX.

The difference between the good and the evil soul is just that which exists on the lower plane between the piece of coal and the brilliantly cut diamond. Both are composed of carbon, but one quenches the sunlight in itself; the other reflects it in dazzling beauty. The unselfish soul finds it is more blessed to pour forth, to radiate, than to receive. The selfish spirit claims for itself alone all that God and man can give:

> "Glory about him, without him, and he fulfils his doom, making Him
> Broken gleams, and a stifled splendour and gloom."
> TENNYSON'S *Higher Pantheism.*

Swedenborg teaches that all influx is according to efflux; that its inflow is commensurate with outflow. The capacity of receiving becomes proportional to the capacity of giving. Unselfish living opens the soul's doorway to receive still more and more of heaven's love and light and peace—

> "Back to ourselves is measured well all that we have given.
> Our neighbour's wrong is our present hell, his bliss our heaven."
> WHITTIER.

Before I make the attempt to indicate a rational system of teleology, one for which the world seems waiting, it seems advisable to give an outline of Swedenborg's teaching upon the subject of Degrees.

The Mineral Kingdoms Three Degrees.

(1) The earth considered in least things. (Such as sand and inorganic detritus.)
(2) Aggregates of these. (Such as rocks and crystals.)
(3) Organic debris. (That part of the soil composed of the remains of plants and animals.)

The Three Atmospheres.

(4) *The Air* we breathe. (Composed of gases, the vibrations of the molecules of which affect the sense of hearing.)
(5) *The Ether.* (That infinitely tenuous fluid surrounding the aerial molecules. The medium in which move the waves causing heat and light, and magnetic or electrical phenomena.)
(6) *The Aura.* (The medium by which the mind transmits "brain waves" or thought waves.)

The telepathic sphere. (The ocean whose waves are human sympathies and antipathies, and in whose depths all our minds are immersed and are connected.)

Arriving at the lowest degree of man's organization we first find *the gross body* (the σῶμα ψυχικόν of Paul, 1 Cor. xv. 44), compounded of matters derived from the mineral and aerial kingdoms.

At death this body is returned to that kindly Nature which for a brief while lent its elements to its spiritual visitant.

As a nexus between the gross body, and the spiritual body, which a man takes with him into the other world, Swedenborg describes—

(7) *The Limbus.* "A species of circumambient accretion derived from the purer parts of Nature."

Dr. Goyder of Bradford deals lucidly with this "substance between spirit and matter" in the *New Church Review* of January 1907, an article now issued in pamphlet form. Mr. E. E. Fournier d'Albe, B.Sc., in a remarkable book entitled *New Light on Immortality*, shows that the most vital part of the cells of the body is not necessarily visible, and if we could eliminate all the rest of the cell material we should have a body consisting of all that is alive in every single cell. Our bodies are built up entirely of cells, and the vital part of the cells are the chromosomes of the nuclei, which may only weigh one ten-thousandth part of the nuclei themselves. If, therefore, the limbus so constituted could be seen it would exactly resemble the person, but would seem as a species of thin mist.

Although the soul or spirit which has cast off its gross body is clothed with such a limbus, we must not imagine for a moment that in this disembodied state the spirit is like a mist wraith, however it may seem to those whose spiritual senses are not open.

On its own plane such a soul or spirit is every whit as substantial and real to the occupants of its own world as men are to each other in this.

The limbus is simply necessary as an envelope or skin to retain the spiritual body, and doubtless to bring it more *en rapport* with earth dwellers. Above and beyond, and yet in a sense within this limbus, we have—

(8) *The Spiritual Body*—the σῶμα πνευματικόν of Paul (1 Cor. xv. 44).

This has its own duality of degrees—
(1) Spiritual Corporeal and
(2) Spiritual Sensual.

This spiritual body is the containant and ultimate of—
(9) The External Mind, with its sensual, scientific, and rational degrees, and
(10) The Internal Mind, with its natural, spiritual, and celestial degrees.

Beyond and above, or as "The Inmost," lies that *sanctum sanctorum*, the dwelling-place of Deity in Man.

We may also proceed from the inmost to the outmost plane, with the understanding that each separate degree is in trines—celestial, spiritual, and natural—

Inmost		A.	The whole spiritual part of man coinciding with the spiritual world.
Internal Man		B.	
External Man		C.	
The Spiritual Body.	Spiritual Sensual	D.	
	Spiritual Corporeal	E.	
Retained after Death.	The Limbus	F.	The whole natural part of man coinciding with the natural world.
Gross Body rejected after Death.	Natural Sensual	G.	
	Natural Corporeal	H.	

(Rev. N. C. Burnham in *Discrete Degrees*, Diagram XVII.)

The vibrations ever emanating from the Divine Inmost are refracted or modified in their descent through the various degrees of the human soul.

Consider for a moment the case of one such descent; a primary all pure and loving impulse influencing a regenerate soul. This influx is transmuted into pure *desire;* then the will influences the understanding to actively pure thought, and the thought ensouled by fervent desire finites itself through the different degrees of the spiritual and natural bodies into some noble deed.

A fuller consideration of this descent brings us to the very threshold of our teleology of Creation as we see it in Nature.

Swedenborg was thoroughly imbued with the modern notions of forces as "tremulations," "undulations," or "vibra-

tions," and he was no advocate of the Newtonian "Corpuscular Theory" of Light.

If we could see and realize the forces we set in motion when we bend our wills to achieve some end, be it good or evil, we should be appalled.

Gustav le Bon is certainly not a spiritual philosopher, merely a scientist, and in regard to religion at least an agnostic, yet (*The Evolution of Forces*, p. 318) he has found as a result of long research, to use his own words—

"There does not exist in Nature, in reality, any dark bodies, but only imperfect eyes. All bodies whatever are a constant source of visible or invisible radiations, which, whether of one kind or the other, are always radiations of light."

And he thinks that nocturnal animals will see any warm-blooded animal, such as a man, with a luminous halo, which the want of sensitiveness of our eye alone prevents our discerning (*ib.*). The same writer (*ib.* p. 174) met with a fact which Swedenborg had discerned two centuries before, that even "Metals possess a kind of metallic atmosphere." If the material scientist had his spiritual eyes opened, he would doubtless see the emanations of the spiritual brain extending to horizons beyond his ken.

We may have advanced sufficiently far in our inquiry to premise something concerning man's part in the creation of the universe, or at least in the evolution of our globe. Let me repeat that man is not alien to but an integral part of Nature, which is a projection of spirit into the unconscious.

The viper and mosquito can never be direct projections of the all-good God, although they may be out-growths of evil spiritual emanations.

Swedenborg (*D. L. W.*) says that—

"The substances and matters of which the earths consist are the ends and terminations of atmospheres which proceed as uses from the spiritual sun."

From this it follows that every fossil in the earth's strata is but the result of forces acting through vast periods of time in the spiritual world surrounding this solar system. Man as we know him is but a very late arrival. He has inscribed his works on a small part of the surface of a globe which was hundreds of millions of years old when he made his appearance. Prior to the advent of man this world had an immense flora and fauna.

I cannot conceive of a time when Love's sunbeams did not finite themselves in Man. That which spiritual beings of the

genus *homo* have thought in the infinite past dame Nature has written in her Kindergarten. Here a flower has come from the steady influx of a certain phase of pure and high thought. Yonder a rank and foul fungus, or mayhap some poison-fanged reptile, has taken substance and form from the influx of falsities spawned by evil wills. The creative force as it proceeds from the eternal God is wholly perfect. In the intermediate spheres of mind, incarnate and excarnate, the pulsations of perfect love are refracted and often so changed by inversion that at last they issue forth "on wings of plague and blight," in tooth and fang and claw, and the deadly microbe, which with ravine testify against the creed of the optimist.

Yet in these evil objects, outcomes of inflowing life, there is nothing of the spirit to be found, save by correspondence. Discrete degrees separate the created object from the spiritual forces which gave it birth. The extinction of so many species in past geological epochs was due to the gradual cessation of that inflowing life of which they were the correspondents. If we could imagine the rapid exclusion of evil minds and their actively evil thought-forms from the life flowing into our present world, we might expect to see the gradual extinction of whole hosts of verminous and venomous species, and a gradually diminishing birth-rate amongst the baser sorts of animals. Fewer jackals and hyenas, fewer vultures, fewer dog-sharks and octopuses. Is it not possible, also, that Nature's storms, her earthquakes and tidal waves, her evil climatic conditions are the outcome of accumulations of evil thought-forms emanating from the aggregate or grouped minds of untold quadrillions of spiritual beings environing this world?

Henry Drummond, in his work on *Natural Law in the Spiritual World*, in the chapter on "Semi-Parasitism," describes those unfortunate crustaceans, the Hermit Crabs, which long ages ago were the happy possessors of strong shells to protect them from the buffetings of oceanic life. To-day the hermit crab has no such shell, and must needs utilize the abodes of mollusca for its temporary home. Often have I seen the waves throw numbers of hermit crabs out of their borrowed shells on to the rocky shore. Drummond wisely likens this state of things to that of the man who puts on and puts off his religion with his Sunday coat. When life's storms, its temptations and griefs overwhelm, such a mind is flung helplessly out of its temporary expedients and "on waves of whirlwind drives to wreck and

death." According to Swedenborg's philosophy this is much more than a mere *analogy:* it is a *correspondence.* Spiritual causes operating in Nature for vast ages have ultimated themselves in the helpless hermit crab of to-day. Parasitism in the mental universe has terminated in parasitism on the physical plane.

Numerous books have been written upon the marvellous power of Thought; works by such writers as Trine and Mrs. Besant, and it would be difficult to exaggerate the importance of the subject. Thought *is* power for good or ill, for weal or woe. Tennyson for a moment shared the inspiration of our seer when he wrote ("The Ancient Sage"): "Think well; Do well will follow thought, and in the fatal sequence of this world an evil thought may soil thy children's blood." We may hope that a regenerated science of "Mind Cure" may reveal the more exact connection which exists between thoughts and bodily secretions and excretions; how an evil thought before it can soil our children must inevitably have soiled our own blood—how base desire transmutes blood-pabulum into leucomaines hostile to health. We need a science of psycho-plasm to show us how to mould our bodily protoplasm into forms which will help our progress and make us of greater service to our race.

Our spiritual vision is not sufficiently opened to enable us to see the vibrations of thought in the higher mental spheres, on spiritual and celestial planes, or how these ensoul themselves in, or set up undulations in the three world atmospheres. Let us glance for a moment at the results of a pure thought, ensouled with Divinest will, in the outward universe, proceeding from fine to gross—

1. *In the Aura.* Sending its "Marconigrams" of inspiring influence in ever-widening waves to influence other minds.

As to the existence of this mental or telepathic ether modern psychical research, of which I have long been a close student, has much to say. No investigator into this realm will deny the existence of such an Aura—the vehicle which is ever thrilling with those vibrations whose sum constitutes "the moral atmosphere" in which we live.

2. *In the Ether.* (a) Adding its quota to the magnetic conditions, or electrical states which help the fertility of Nature.

(b) Modifying light waves and helping those chemical rays which are found in "the violet end of

the spectrum," and which slay disease germs and purify air and water.

3. *In the Air.* Adding to those vibrations which increase the activity of oxygen and the power the stomata of leaves possess to absorb from carbon dioxide its carbon and give back to Nature its vivifying oxygen.

The ethereal degree furnishes us with examples of what we may for convenience term "Simultaneous Degrees." In unison with the doctrine of the Conservation of Energy, Prof. J. J. Thomson, in referring to the fact that one form of energy may be converted into another, says—

"When kinetic energy changes into potential, although there is no discontinuity in the *quantity* of the energy there is in its *quality*."

We maintain that it is this very discontinuity of quality which constitutes a discrete degree.

By the use of a thermopile, an arrangement of metals of opposite electrical properties, one can easily show how the application of mechanical energy due to chemical combustion can produce heat, and this in its turn develop electricity—

Chemical force producing Mechanical Energy, which sets up Heat, which can develop Light and also Electricity.

What if the electron, the latter-day atom of the erstwhile atom, be but the base of that ladder whose summit is lost in the boundless azure of Deity? There is abundant room for the God-inspired sciences of psycho-chemistry and psycho-physics, and Swedenborg's philosophy of "Influx and Degrees" points out the way.

I confess to you that modern physical and chemical sciences, yes, and modern biological science, apart from their external uses, are very arid, by themselves. They seem to have no glimmer of a message to that mental world in which we spend every waking and dreaming moment.

What a glorious time that will be when each new discovery in the laboratory will be seen to be but the counterpart of some truth vital to the human soul. Then will the seeker have passed from the things of matter, products of a sun which to the angels is dead, to the truly living things which concern his soul's history from stage to stage. Some New Archimedes will then cry with even greater fervour—

"Eureka! I have found it!" as he realizes that God is here and he knew it not.

SOME OF THE PRINCIPAL FOREIGN VISITORS AND THE SWEDENBORG S

MITTEE. THE TERRACE, BISHOPSWOOD, HIGHGATE, JULY 6TH, 1910 [*p.* 209

Truly has Thomas Lake Harris said (*The Great Republic*, Part I, p. 15)—

> "For Nature still is other, deeper, fairer,
> Than mole-eyed science can believe, or know ;
> Till a new blood and breath and spirit, rarer
> Than death, or dust, or ashes, through her flow.
> 'Tis the God Man who sets His Image still
> Where'er the elements the Word fulfil."

GARDEN PARTY

Wednesday Afternoon, July 6.

By the kind invitation of David Wynter, Esq., the members of the Congress, together with the visitors to it and other friends, attended a garden party at his residence, Bishopswood, Highgate, where they were sumptuously entertained. The band of H.M. Grenadier Guards played during the afternoon. The number of ladies and gentlemen who accepted the invitation exceeded nine hundred.

THE GARDEN PARTY, BISHOPSWOOD, HIGHGATE, LONDON.

NCE OF DAVID WYNTER, ESQ. WEDNESDAY, JULY 6TH, 1910

SECTION III.—THEOLOGY

SECTION III.—THEOLOGY

MORNING SESSION

Thursday, July 7.

THE PRESIDENT: After reading a telegram received from the Auckland Society of the New Church dated July 6th —"Greetings from the Auckland Society to the Swedenborg Congress," the President said: This morning I have to ask your attention to the continuation of my address of Tuesday. During that morning we were considering Swedenborg as a man of science and a philosopher, and the papers read were mainly concerned with his doctrines and discoveries in those two capacities. Now we arrive at a time when he is no longer an investigator, no longer an inquirer; but when he tells of things seen and heard by him in a state in which his intellect was enlightened, while still an inhabitant of this world, so as to enable him to be in constant communication with beings of another world. And now what he tells us is, to use his own terms, not analytical but synthetical. I will read his own words in reference to the great change: "I was at last able to see that the Divine Providence had governed the acts of my life uninterruptedly from my very youth, and had directed them in such a manner that *by means of a knowledge of natural things I was enabled to reach a state of intelligence*, and thus by the Divine Mercy of God-Messiah to open those things which are hidden interiorly in the Word of God-Messiah. Those things which were hidden, therefore, are now made manifest in the Word of God-Messiah." It is sometimes supposed that Swedenborg's opinions in theology and philosophy before his spiritual eyes were opened, were so far advanced that he had arrived at conclusions almost identical with the doctrines expressed in his theology. But this is a mistake. Not long before his Illumination he expressed opinions based on the Tripersonal doctrine of the Trinity, and other opinions which he afterwards repudiated.

We cannot gain even a superficial knowledge of the heavenly doctrines without a knowledge of the Science of Correspondence—of the relation, that is, between the natural world and

the spiritual world, and of the laws that govern them ; and a recognition of the great fact that everything in this universe is a representation of something in the spiritual universe.

I have sometimes been told that the doctrine of correspondence is charming poetry, very delightful, but to some extent fanciful. Yet this is far from the truth. For the doctrine of correspondence is based, not upon poetic fancy, but upon reality. One of the most beautiful truths in theology is that which teaches the correspondence between the Sun of the spiritual world and that sun which is the centre of our solar system. The sun of this natural world is the external source by which all physical life is sustained. All created forms of life in this world live and move in the heat that flows from the sun. During untold ages the emanation of heat and light has proceeded therefrom, and thereby have countless millions of men been sustained. Can we not see in this a correspondence of the great Spiritual Sun which is the centre of all things, and whence flow love and wisdom from the Lord ?

It would be impossible, however, to give even a brief descriptive catalogue of the works which Swedenborg published after his Illumination, in which he revealed the theology of the New Church and explained its principles. Nowhere else are to be found such enlightened philosophy, such practical lessons of life and conduct for human beings of all ages and stations, and such reverent devotion for the Word of God.

His first great work was the *Arcana Cœlestia*, an exposition of the internal sense of the books of Genesis and Exodus, but containing also much material afterwards used by him in later works. The *Arcana* was Swedenborg's largest work. The next in extent was the *Apocalypse Explained*, which was not published in his lifetime. These and the *Apocalypse Revealed* are also expositions of the internal sense of the Word. All these works abound in luminous and practical explanations of an immense number of passages in other parts of the Word. But from the *Arcana* to *The True Christian Religion*—which is a comprehensive summary of the doctrines of the New Church—the theological works of Swedenborg are a library of priceless treasures

In the doctrine of the Lord, the Creator is revealed to us as an infinitely glorious Divine Man. In the Lord is a Divine Trinity, not of persons but of essentials. The Lord is Creator, Redeemer and Saviour, One Divine Being—manifested in threefold manner. By this Divine Being man was

created as an immortal spirit, endowed with the gift of rationality, and able to choose between good and evil, truth and falsity. Evil originated by man's abuse of his freedom, whereby he rejected good and turned to evil.

In the Trinity the Father is Divine Love itself; the Son is the Divine Truth; the Holy Spirit is the proceeding Divine eternally operating in the preservation and regeneration of man. We are taught, too, that when man had abused his freedom and was in danger of losing his rationality by the dominance of sin and the powers of evil, the Lord assumed human nature from the mother—and by resisting all the tendencies to evil inherent in it, He vanquished the powers of hell, and thus restored man's freedom of choice. The human from the mother was put off and the Divine Human took its place. The Divine and the Human were thus united, and became one in the Lord Jesus Christ—one absolutely in essence and person, as the soul and body make one in man.

The doctrine of the Sacred Scripture shows that just as in man and in the Lord Himself there are three degrees of life, so in the Word there is a trinity of three senses, the Celestial, which is the manifestation of the Divine Love, the Spiritual, which is the manifestation of the Divine Truth, and the literal sense, which is the basis and containant of the two others; that the internal meaning can be made known to men by the science of Correspondence, but that all true doctrine is confirmed by the letter. The relation of the Word to the Lord Himself is clearly described, and we are also shown how the Histories, Psalms and Prophecies of the Old Testament refer, in the internal sense, to the Lord's Glorification and to Man's Regeneration.

The doctrine of Faith follows. It is strange that faith is so often restricted by preachers and writers to mere belief. But you do not say you have faith in a man when you only know of his existence: you want to know him. That Faith is an internal acknowledgment is made clear in the doctrine of Faith. It only comes to those who first obey the Divine precepts, who keep the commandments in a spirit of obedience, and, at last, because their affections are in harmony with the Lord's will. They have tried the laws of religion and proved them. This is the Faith that saves.

Then we have the doctrine of Life, in which are summed up the duties of practical religion. Its teaching is based on the lessons of the Sermon on the Mount. It not only tells us how we may worship, but it shows us that religion should prevail in every department of life. It shows us our

duties in our daily intercourse with each other, as men of business, as masters and as servants. Even in our social intercourse, and in our varied joys and pleasures, we may let the influence of our Lord's teaching guide and assist us. This is the doctrine of Life.

Few of Swedenborg's books are more fascinating to the reader than *Heaven and Hell*. In it are described the scenery of the spiritual world, and the conditions of life after death, in Heaven, in the Intermediate State, and in Hell. Swedenborg shows that after death, when men are freed from the restraints of this world, they associate with like-minded spirits, whether good or evil. Thus the wicked are not sent to the kingdom of darkness; following their own impulses they go to the place and to the societies where they can indulge in their own delights. They are not sent there by an angry God. The nature of heavenly happiness is described, and the fallacy of the old idea that it consists in eternal prayer and praise, or in the delights of lovely gardens, or in feasting with Abraham, Isaac, and Jacob is exposed. The constant delight which the angels feel in serving and helping others and in transmitting heavenly influences to the inhabitants of the natural world, are the essentials of their happiness.

The great principles of the spiritual philosophy of the New Church are nowhere more comprehensively stated than in the two great treatises, the *Divine Love and Wisdom* and the *Divine Providence*. In the former there is set forth in simple language the wonderful Doctrine of Degrees, generally acknowledged by thinking men who have studied the subject to be a real contribution to philosophy. There is no limit to the extent of the light the student may gain from this doctrine, yet it is very simple, as indeed are all the teachings of the New Church. Let me give a homely illustration. Take a piece of ice; you may see it change to a fluid, water, and afterwards to aqueous vapour. We have there three degrees of existence, the solid, the fluid, and the vapour; but these are continuous degrees, being all on the same physical plane. Each is easily changed into the others. They are not "discrete" degrees, such as the distinction between the moral and the religious, the natural and the spiritual, or the spiritual and the celestial. You see the face of a friend and note the variety of expression, telling of joy or sorrow, pleasure or pain. The face is material, but the feelings conveyed in the changes are not, and you know that there is something non-material behind the face. You understand that he is thinking of

something that delights him, or something repugnant to him. And the difference between the thoughts and the feelings and the face itself are examples of what is meant by discrete degrees. There is a discrete degree between the face and the feeling behind it.

In the treatise on the *Divine Providence* the laws of God's relations to men are revealed to us. We are taught that all men were created to become angels in Heaven, but that if they turn away from the paths that lead to Heaven they put themselves in opposition to the stream of the Divine Providence; and if they persist in this course, shut themselves out from the freedom, and thus from the happiness of Heaven. This treatise also clearly shows us that even in this world man is a spiritual as well as a natural being; he is a recipient of life from the Lord, natural life, intellectual life, and spiritual life. These magnificent treatises on spiritual life, the *Divine Love and Wisdom*, and the *Divine Providence*, differ fundamentally from the most enlightened metaphysical works, even from those which Swedenborg himself wrote merely as a philosophical inquirer. Some time ago in thinking of this difference I was reminded of a personal experience. Thirty-nine years ago it was my good fortune to go with a friend to the Oberammergau Passion Play. We were very much impressed; as we left we compared notes; and to both had come the idea that the incidents and spirit of the performance differed from all else in the sphere of either drama or literature. I well remember the remark my friend made: "Yes," he said, "it helps us to see that Christianity is more than a philosophy, it is a religion." And something like this I feel when I turn from the pages of many of our enlightened metaphysicians to the *Divine Love and Wisdom*. It is like breathing a different atmosphere and living in a different world.

A reference should be made to the work on *Conjugial Love*, in which we are taught that all true marriages are founded on the union of goodness and truth, a union that prevails in every influence which reaches man from heaven. Then there is another work about which many incorrect notions prevail. I mean the *Earths in the Universe*. It is a mistake to suppose that Swedenborg professed to go from this to other worlds. Swedenborg shows us that in the spiritual world we are not conditioned by the laws of space and time, and that even here, as to our spirits, we are free from their limitations. We ourselves have been to the London of two

hundred years ago in the course of this week. In the spiritual world, entirely unconditioned by the laws of space and time, Swedenborg could associate with the spirits from those other worlds, and he did actually converse with many of them. Many years ago, there was a great controversy started by Dr. Whewell, the Master of Trinity, on the Plurality of Worlds, and his argument was that all the worlds in this mighty universe and in the stellar spaces were without inhabitants. This was opposed by Sir David Brewster, a distinguished man of science, who had such respect for the statements in Swedenborg's *Earths in the Universe* that he used them in his powerful argument for the existence of human beings in other planets.

Time presses, and I will pass by some other suggestions on which I might dwell. The world has often to wait for the messages of its greatest teachers to become known; but there are signs that the value of Swedenborg, as a supremely great teacher, is becoming more widely recognized. He is at once a spiritual philosopher and a guide to our everyday duties. He expounds the laws of true charity. He shows us how the intellect may be enlightened and controlled by a knowledge of the laws of Divine Love and Wisdom, and how we may continually progress towards a more and more perfect manhood by a life according to the Ten Commandments. When we reflect on what we owe to the teachings of the New Church, from our earliest childhood to our latest years, how they have enabled us to see with understanding eyes the glories of this world and something of the deep things of the other world, and even to understand something of the nature and power of the Lord, may we not say with reverence and humility that through the medium of Swedenborg we have been able to enjoy at least a small share of these unspeakably great blessings, and to thank our Heavenly Father for "the precious things of heaven, for the dew, and for the deep that coucheth beneath; and for the precious fruits brought forth by the sun, and for the precious things put forth by the moon, and for the chief things of the ancient mountains, and for the precious things of the lasting hills, and for the precious things of the earth and fulness thereof, and for the good will of Him that dwelt in the bush"?

In introducing the Chairman of the session, the PRESIDENT said:—We have said little during the week of the work of the Swedenborg Society. I remember a few of its earliest members, and we have as our Chairman to-day the Rev.

William A. Presland, not only the grandson of one of the original members of the Swedenborg Society, but one of those aristocrats, the fourth generation of New Churchmen.

CHAIRMAN'S ADDRESS

By Rev. William A. Presland,
Principal of the New Church College, London.

The deliberations of our Congress have been arranged in an ascending series. They began in the domain of experimental science, affording evidence of the wide range of Swedenborg's researches into nature. We saw him busied with mechanisms — adapting, inventing; then reading earth's records and using her stores; from her crust and mines we followed him into the depths of the universe as he measured suns and planets. Here was the keen observer, the patient student of facts. Here the practical man, seeking knowledge as the means of material progress and greater usefulness. And a practical man he remained to the end of life; taking an active part in the affairs of his country even when engaged in describing the spiritual world.

If we did not know it before, we knew then that Swedenborg was in the front rank of those who have learnt and developed material resources. Then we stepped with him to a higher plane, in his search for causes. What was the origin of suns and planets? What the secret of their substance? What the mainspring of that master mechanism —Man? Mind—what was it, and what the manner of its working? He would follow the soul through her kingdom of the body to her own inner sanctuary. Viewing him as one of the most profound thinkers, we traced his influence on philosophic thought.

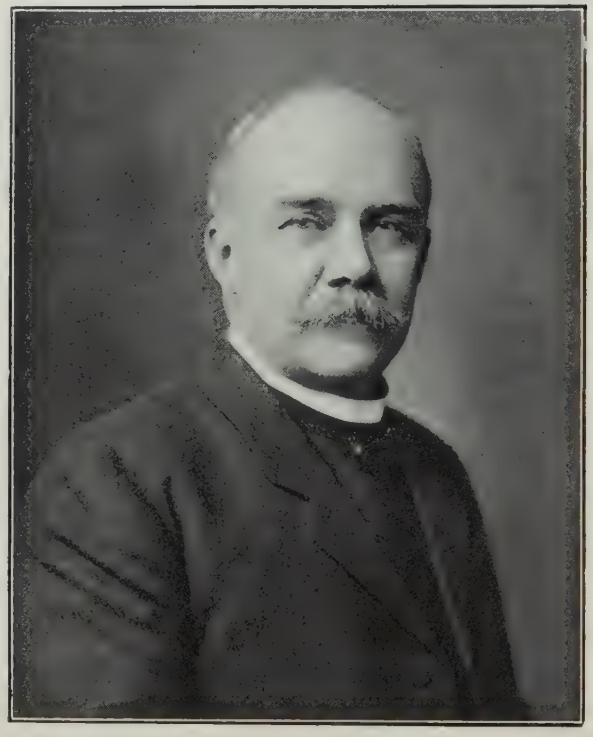
In our second section, Swedenborg was before us first as a natural philosopher. In his anatomical and cosmological theories, for instance, he was working in the light of nature, though always with reverence for nature's God. But he has also been brought to our view as the spiritual philosopher, as, for instance, in the papers on Ultimate Reality, and Influx and Degrees. What he then advanced was possible only to one enlightened as to the facts and laws of the spiritual world. These things belong to that period of illumination with which to-day we have exclusively to deal.

We now ascend with him to a vastly higher plane. The

period of speculation is past. He has become the subject of Divine illumination and guidance. He is not groping in the light of nature. He is in the radiance of the spiritual world, and tells us with certainty and confidence what he has heard and seen.

For neither science nor philosophy was the end in view, though for a time his object. He who disposes all things had a higher purpose for him. All this had been but preparation for his life's work. Through him the Lord Jesus Christ, "the only wise God, our Saviour" (Jude, 25), would "come and found the New Church, which is the New Jerusalem, by means of a man," as he tells us, "who can not only receive the doctrines of this Church with his understanding, but can also make them public by the press. That the Lord manifested Himself before me, His servant," he continues, "and sent me on this duty, and afterwards opened the sight of my spirit, thus introducing me into the spiritual world, permitting me to see the heavens and the hells, and also to converse with angels and spirits, and this now continually for many years, I testify in truth; also that from the first day of that call I have not received anything relating to that Church from any angel, but from the Lord alone, while I have been reading the Word" (*T. C. R.*, 779). That Divine purpose could only be served by the preparation traced in earlier stages of this Congress. To the question, "Why from being a philosopher have I been chosen?" Swedenborg's answer was, "The cause of this has been that the spiritual things which are being revealed at the present day may be taught and understood naturally and rationally; for spiritual truths have a correspondence with natural truths, because in these they terminate, and on these they rest. . . . For this reason I was introduced first into the natural sciences, and thus prepared; and indeed from the year 1710 to 1744, when heaven was opened to me. Every one also is led by means of natural to spiritual things; for man is born natural; by education he is made moral, and afterwards by regeneration from the Lord he becomes spiritual. . . . Falsities that have been confirmed close the Church, wherefore truths rationally understood have to open it. How else can spiritual things, which transcend the understanding, be understood, acknowledged and received?" (Letter to F. C. Oetinger.)

This momentous claim will not be conceded by those who have studied Swedenborg only as the man of science and philosopher. But respect for him as such should lead to its careful and frank consideration. And few, indeed, have given



REV. JULIAN K. SMYTH, M.A., [*p.* 221
Pastor of the New York New Church Society

it this without coming to conviction of its truth. The proof for the practical man is that the teachings establish the claim by solving "naturally and rationally" the greatest problems that confront him—problems not only of thought but of life; for things are not only true in the degree that they enable us to think correctly, but also in the measure that they aid us in living useful lives.

The doctrines selected for presentation in this section are among the most important in their bearing upon our duty to God and man. They will prove true in application not only to intellectual problems, but to the actual experiences of life.

We know that the teachings of the New Church are indeed from God, because they lead us to God. They help us, as no other teachings can, to live more kindly, helpful, patient lives. In perplexing issues, in times of sorrow, in grave temptations, they have found us as the right hand of the Most High. We have heard, we have seen, we have felt, that they are the Lord's revealed wisdom for our guidance and comfort.

THE NATURE OF SWEDENBORG'S ILLUMINATION

By the Rev. Julian K. Smyth, M.A., New York.

Dante, in his immortal work, thus describes a messenger who is seen approaching :—

> ". . . What is this
> 'Gainst which I strive to shield the sight in vain,
> . . . And which towards us moving seems ?"

And the answer is made :—

> . . . "It is a messenger who comes
> Inviting man's ascent. Such sights ere long,
> Not grievous, shall impart to thee delight,
> As thy perception is by nature wrought
> Up to their pitch."

Such language will not, I trust, seem strained if used to describe in a general way the spiritual office of Emanuel Swedenborg. It is the purpose of this paper to recount how Swedenborg came into that office ; to consider what is commonly called his "illumination," not in any technical or controversial way, but rather as an experience which was an essential part of his career, and which, because of its

unexpectedness, because of its apparent check upon a course of uncommon brilliancy, and I may add, because of the incredulity with which it has been regarded, depriving him of the full measure of admiration and confidence which is his due, give it an almost tragic interest. For taking him as a man who, far from being a mere "visionary," lived a most real life of honest toil, his career was as unique as it was brilliant and honourable.

I have spoken of him in his spiritual office as a messenger, who, in Dante's words, "comes inviting man's ascent." How came he to be such? What had become of the man of practical achievements, the mathematician, the inventor, the engineer, the director of mining, the statesman, the master of so many sciences? For from the first this man displayed powers and talents such as men delight to honour. Moreover, the old racial spirit was in him. From the Northmen he came, that intrepid race that gave us the Vikings, the dauntless men who made "war their business, courage their duty, fortitude their virtue"; the fearless navigators and explorers, setting forth in vessels so small and slight that "they floated like egg-shells on the surface of the waves that tossed and buffeted them"; a people whose coming was always as the coming of a storm, so that in every alarm this petition became a part of the Catholic litany: "From the fury of the Northmen deliver us, O Lord!"

From this forceful race, tempered, indeed, by the religion of the Prince of Peace, the "Prophet of the north" came. And although the outward fierceness of his ancient people was long since gone, he displayed in his career, and in entirely new and higher fields, the old native elements of courage and persistence, the spirit of investigation, and, above all, the love of truth. As a youth he heard the call from the seas, from distant lands, from the realms of nature, to go forth into God's great world and be a seeker of the Truth. As he stood in his university town, a graduate at the age of twenty, already a skilled mathematician and a Latin scholar of high grade, he longed to go forth to study, to follow the paths of knowledge that opened up before him. He had the spirit of Ulysses, the untiring adventurer, daring whatever fate might be in store in following knowledge to its farthest point, even as Tennyson has represented Homer's hero as exclaiming—

> "I cannot rest from travel. I will drink
> Life to the lees . . .
> . . . . . .

. . . I am become a name
For always roaming with a hungry heart.
. . . . . .
Yet all experience is an arch whereto
Gleams that untravelled world, whose margin fades
For ever and for ever when I move.
How dull it is to pause, to make an end,
To rest unburnished, not to shine in use !
As if to breathe were life ! Life piled on life
Were all too little . . .
. . . But every hour is saved
From that eternal silence, something more,
A bringer of new things . . .
To follow knowledge like a sinking star,
Beyond the utmost bound of human thought."

For a year the soul of the youth chafed at his forced delay, for his father, good Bishop, did not have the means for sending his son abroad, and ways had to be devised that the longing of his spirit might be gratified. But the happy moment came. He fared forth, intent on perfecting himself in his favourite science of mathematics. To London the young provincial came ; gloried in the great world that here met his eyes ; visited St. Paul's Cathedral, then rounding into completeness, and the old Abbey, where he wrote some Latin verses at the tomb of a favourite scholar ; diligently studied Newton ; learned one kind of handicraft after another ; moved to Oxford where he searched the Bodleian Library ; passed on to Paris which he scoured for the great astronomers of his day ; went to Holland and to Germany investigating, studying, writing home the most enthusiastic letters of discoveries made, or of inventions (with accompanying drawings) that he had worked out.

Then he is home again after five years of travel and research. He becomes the publisher of a philosophic magazine to which the learned men of Europe are contributors. He is full of practical projects for the benefit of his country. He devotes himself to natural science and to engineering. He is appointed Assessor Extraordinary in the Swedish College of Mines. This starts him on another quest. He visits all the mines in Saxony and the Hartz Mountains, that there may be nothing about mining and furnaces that he shall not know. As early as 1721—at the age of thirty-three—he begins to lay "the foundations of a scientific explanation of the universe." His fame as a scholar and as an investigator spreads. His opinions are sought by scientists and philosophers. He is enrolled as an honorary member of various European societies. The Duke of Brunswick be-

comes his patron. He takes his seat in the House of Nobles to which he had been admitted—a position which he filled with fidelity and distinction to the end of his life. He visits Europe once more, studying the libraries, museums, picture galleries, churches, monasteries, asylums, visiting the theatres, investigating the manufactories. He is become a veritable cosmopolitan. His mind is fertile in inventiveness, keen in analysis, brilliant in power of reasoning; and with it all he is fortified and balanced by the widest observation and practical experience. He rounds into this middle period of his life with the swing and the stride of the trained athlete. He has no idiosyncrasies that would warn you to be wary. He is a man of culture. He is a man of personal charm. His manners are simple and gracious. He dresses in good taste. His intelligent face lights up with a smile as he greets you. A great man, but not a distant one; a good man, without a blot on his escutcheon, but one whom you would like. He has worked his way up. He has mingled with men in the mines, and he is a welcome guest at the tables of the great. With tireless energy he has explored nature far and near. He has accumulated a wealth of knowledge which it seems almost impossible for a single mind to have grasped.

But the end is not yet. His work as an explorer is but fairly begun. He enters upon a new period in his scientific career. Beyond this realm of physical facts, wonderful as it is—what? To what end were all these material things created? What animates them? What has grouped and sustained them in all these widely varied and strangely beautiful economies of use? He feels that beyond or within them all, there is an untravelled world, whose margin fades for ever when he moves. It haunts him. It beckons him. Out of that unseen distance there comes a call to the spirit of this Norseman. One can almost hear him say, as Ulysses is represented as saying:

> "'Tis not too late to seek another world.
> . . . . .
> . . . . . My purpose holds
> To sail beyond the sunset, and the baths
> Of all the western stars, until I die.
> It may be that the gulf will wash us down;
> It may be we shall touch the Happy Isles."

Swedenborg was intent on penetrating to the world of causes. For to his mind, a world without a Supreme Intelligence that created it for use, was a mere mechanism; and

the human body, without a soul within it which it served was simply a cadaver. He resolved that step by step he would push his way back from things outward to things inward; from things known to things unknown. He knew full well that in this passage from effects to causes there would be difficulties; but he was too great an explorer to admit that they were insurmountable. He faced them with intensity. He chose the human body as the special field for these deeper investigations; for there, he reasoned, the evidences of the presence and of the workings of the spiritual would the most certainly be found. Now he began a series of anatomical and psychological studies which were carried on for years with the most painstaking toil. He was at the age of forty-seven. He set out for Germany, France and Italy, searching out the most eminent teachers and the best books that might serve him. He attended lectures; he went to clinics; on occasion he used the scalpel himself. He has been pictured as gathering up all the powers of his mind, marshalling his forces of knowledge, from the first generalizations of early student days to the last which his maturer intelligence and wider observation had supplied, and, under all the discipline and with all the machinery of his age and of his own genius, with the name of the God of Battles and of the Prince of Peace distinctly emblazoned on his banners, he sets out on this peaceful conquest. For it was no intention of his to break violently into the soul's house and dismantle it. In the descriptive words of one who has been able to enter understandingly and sympathetically into this part of Swedenborg's work:

"There is something really hushing and imposing in the measured tread of his legions, in the formal music which drills the air where his staff of general truths is in the field, and in the absence of passion in so firm a host advancing to such important conquests."[1]

"I intend to examine," writes Swedenborg, in words which throb with the intensity of his purpose—"I intend to examine, physically and philosophically, the whole anatomy of the body. [Here he specifies the various organs and substances which he is to examine in detail.] I purpose afterwards to give an introduction to Rational Psychology, consisting of certain new doctrines [which are also enumerated] through the assistance of which we may be conducted from the material organism of the body to a knowledge of the soul which is immaterial . . .

[1] Dr. J. J. Garth Wilkinson's *Emanuel Swedenborg*, p. 46

From these doctrines I come to the rational psychology, which will comprise the subjects of action, of external and internal sense, of imagination and memory, also of the affections of the animus; of the intellect, that is to say, of thought and the will; and of the affections of the rational mind; also of instinct. Lastly of the soul, and of its state in the body, its intercourse, affection, and immortality; and of its state when the body dies . . . To accomplish this grand end I enter the circus, designing to consider and examine thoroughly the whole world or microcosm which the soul inhabits, for, I think, it is vain to seek her anywhere but in her own kingdom . . . This will be the crown of my toils, when I shall have accomplished my course in this most spacious arena. But in olden time, before any racer could merit the crown, he was commanded to run seven times around the goal, which also I have determined here to do."

This was no mere outburst of the enthusiasm of a moment. It proved to be the announcement of a settled purpose. Now he began the production of a series of works of such careful observation, close reasoning, and deep insight as to have filled the minds of scholars with amazement. Carefully, reverently he made his way through the labyrinth of bones and muscles and nerves and fibres and fluids; on through the substances of the brain; then up the long steeps of psychology, from the corporeal memory, on past the ranges of the lower mind, examining, classifying its multitudinous affections, mounting up by this means to a higher mind, up, up, until he felt he must be nearing the confines of the soul. He was not delving into nature so much as he was scaling ladders, ascending heights whence he gained vistas that filled him with amazement. He had passed the familiar landmarks of the outer world. He felt that he had covered a long distance in an inner realm of increasing wonders. He uttered no boast. Rather he seems to have been filled with awe as he pushed on. Hear him where he says:

"In the ultimate circle of nature we may receive the wonders of the world, and as we ascend the steps and ladders of intelligence receive still greater wonders in all their significance and with full vision; and at length we may comprehend by faith those profound miracles that cannot be comprehended by the intellect; and from all these things, in the deep hush of awe and amazement, venerate and adore the omnipotence and providence of the Supreme

Creator; and thus, in the contemplation of Him, regard as vanity everything that we leave behind us . . . The last end, which is also the first, is that our minds, at length become forms of intelligence and innocence, may constitute a spiritual heaven, a kingdom of God, or holy society, in which the end of creation may be regarded by God, and by which God may be regarded as the end of ends." [1]

As one reads these words it seems as if this great explorer had reached his journey's end. Even now, with all the advantages of his accurate descriptions, it is not easy to follow in his tracks. "The design in nature"—an expression with which we are too easily satisfied to affirm a general belief in divine causation—here breaks forth into actual outlines, and in detailed descriptions of laws and processes of bewildering beauty which serve to interpret not the cosmos alone, but man the microcosm, and humanity the macrocosm, and the Providence of God by which the least as well as the greatest are never beyond the Divine knowledge and care, and the Logos or Word as the organon of Infinite Wisdom where he who runs may read. I avail myself of the generalizations of another: From the principle of "*series*," as explained and elaborated by Swedenborg, one sees nature moving "in rows, lines, or regiments." From the principle of "*degrees*," everything is seen as being "in its own rank, and knowing its place." From the principle of "*association*," substances that are "friendly and mutually-helpful are near each other and for each other." From the principle of "*forms*," life descends "the stairs of excellence and universality, from vortex to spiral, from spiral to circle, from circle to angle, and then re-ascends by supersinuations from the earth to the sun, from the mineral to man." From the principle of "*influx*," not physical force alone exhibits power, but "every ray of purpose and intention is communicated from every side, and from above to below, and received and acted upon." From the principle of "*correspondence*" comes all fitness: "fitness of the body to the soul," and of all natural things to spiritual things; fitness of nature to man; and of all good things to God; and, as "the corollary of this fitness, a conjunction of all the fellow-works and the fellow-workers into one grand unity, which is reality and creation," a vast, divinely-purposed, divinely-sustained solidarity.

Behold, then, the great explorer! "Beyond the sunset," ay, and "the baths of all the western stars," he has come.

[1] *The Animal Kingdom*, Part ii, p. 366.

Will the wash of these high elements engulf him, or shall he touch the Happy Isles at last? We have reached a climacteric period in Swedenborg's career. We see him working assiduously at his high task. No thought of surrender or of failure has entered his mind. And yet what was there left for this man to do? What higher altitudes could he scale? Would he, indeed, look upon the very soul for which he had searched, now that he seemed to have come within its sanctuary? Behold, then, a transformation; not sudden, in no way sensational, and yet none the less surely a transformation. For by a way that he knew not, and by paths that he had not known, this enlightened student came into a state of intelligence deeper, fuller than anything he had ever dared to hope for, and the venturesome explorer, with so many laurels won, gradually became a messenger whose earthly ambition to discover gave way to an even firmer resolve to serve One by Whom he had been called, and "from things seen and heard," to make known to an incredulous world truths of wisdom which it is not possible for the human reason to discover.

From a private record which he kept we note the workings of deep spiritual forces of which he became increasingly aware, and which, as they gathered in intensity, occupied him more and more. At one time he wrote—

"The whole day I spent in prayer, in songs of praise, in reading God's Word, and fasting; except in the morning, when I was otherwise occupied" [that is, when he was engaged in his scientific work].

His soul seemed to be moving in a great current of spiritual life. The scholar and genius, eager to push on, was aware of a something knocking at his soul.

"This much [he writes] have I learned in spiritual things, that there is nothing for it but to humble oneself, and with all humility to desire nothing but the grace of Christ . . . The Holy Spirit taught me all this, but I in my weak understanding passed over humility, which yet is the foundation of all."

Humility! That was the new watchword for this stalwart investigator working away at what he confidently anticipated would be his crowning achievement. Humility! The man had never been arrogant; but he had bared his brow to the world with an intellectual confidence that was only human, yet which he now began to regard with concern. While he continued vigorously with his intellectual labours, he became more and more sensitive to spiritual influences. A great

sense of unworthiness came over him. He counted himself a greater sinner than others, for the reason, he declared, "that our Lord has granted me to penetrate by thought into certain things more deeply than many others do . . . so that my sins have on that account a deeper foundation than those of many others." He likened himself to a peasant who has all unexpectedly been raised up to be a prince with a vast privilege of abundance bestowed upon him; and yet a something within that prince trying to teach him that he of himself was as nothing. He set down for his motto these words—

"GOD'S WILL BE DONE; I AM THINE AND NOT MINE."

And at another time, referring to this motto, he prayed:

"Pardon my saying that I am Thine and not mine; it is God's privilege and not mine to say so. *I pray for the grace of being Thine, and of not being left to myself.*"

More and more he felt the divine leading, although as yet he did not know whither it was tending. "Our Lord knows best what all this means," he wrote in gentle humility. And yet as he felt a restraining influence upon the scholarly ambitions of a life-time, it grieved him. It brought him into states of deep temptation. He seemed to hear a voice, indeed; but, as in the case of John the revelator, alone on the isle of Patmos, he first heard it behind him. He was in a state of spiritual obscurity. He had not yet turned to see the voice that spake to him, and look unreservedly into the face of "One like unto the Son of Man," and feel the hand of kind power laid upon his bowed head, with the reassuring words: "Fear not!" He had dared and done so much more than any other man in the fields of knowledge! To turn from so brilliant a career in which he had delighted, with the goal seemingly so near! To change confidence in the truth and soundness of principles which he had worked out with such splendid power, for a yet deeper confidence that he would be taught of God; to replace the natural satisfaction in work grandly done by a feeling of humility and a desire to be worthy of Divine guidance alone—this was the inward transformation that had to be wrought. He did not wish to leave the work he had projected. He gloried in being a student, and he was too great not to know the value of his labours. On his knees he had to fight this out, and the struggle lasted for many months. It was the case of an intellectual giant humbling himself as a little child.

At last a day came (October 1744), when he laid aside the great work on which he had been so long engaged It

was partly completed. It was not that he felt that he had failed; and great minds since that day have marvelled at its contents. Yet he put it away. Something, some One was drawing him into different work. . "May God lead me in the right way," he wrote on that memorable morning. Surely there is something profoundly touching in the sight of this great man, without a word to any one—for God was his only confidant—quietly gathering that precious MS. together, something which he was willing to set aside in obedience to a higher call, and with it his ambitions as a scholar.

"I was once asked," he wrote years afterwards, "how from a philosopher I became a theologian; and I answered, 'In the same way that fishermen were made disciples and apostles by the Lord, and I, also, from early youth had been a spiritual fisherman.' On learning this the inquirer asked what a spiritual fisherman was. I replied: 'A fisherman, in the spiritual sense of the word, signifies a man who investigates and teaches natural truths, and afterwards spiritual truths in a rational manner.'"

Swedenborg was an old man when he thus described the change that had come over him; and if there still lived the memory of the mental anguish through which he had passed, he was too secure in his higher office to dwell upon it. But the figure under which he refers to this transition is graphic. By an expressive incident in the Gospels, we are led to see the wise way in which he could look back upon those thirty-five years of intellectual toil in the fields of natural knowledge. That period of his life, long neglected, is being re-discovered. The world of scholarship—as is attested here by the presence and the testimony of students of note—is rising up to do honour to intellectual work so grandly done. But the man himself, as he looked back upon this portion of his career, quietly said of it: "I was a fisherman in those days. I made my nets; and as far and as widely as I could I cast them into the sea." And then, taking our cue from Swedenborg's self-description, may we not imagine him as going on to say: "There came a time when I was aware of a Presence that sought me: I, letting down and hauling up nets, and on the shore One, whose words, half-invitation, half-command, reached me at last: 'Follow Me, and I will make you a fisher of men.' The nets were laid aside; I forsook all and followed Him."

This assertion of total surrender is not too much to make. While the call by which Swedenborg was led to enter upon

his distinctly spiritual labours, was, for the most part, the whisperings of "a still small voice," heard with increasing certainty day by day; and while there was no violent outward transformation, which might arrest the attention of the outside world, yet there were not lacking visible signs of the completeness of the change which was come. For one thing, he resigned his office as Assessor of the Board of Mines, that he might be free to devote himself exclusively to his spiritual labours.

A more significant change could have been noted in his home. From his study he removed all the books and scientific instruments in which he had previously delighted. The only visible link with his scientific career was an index of his voluminous writings. On his table were copies of the Old and New Testament Scriptures in Hebrew and Greek. To these he now turned, and with that same thoroughness which had marked all his other work, he mastered the Hebrew, searched the Scriptures throughout, reading them through several times. Day by day, in the quiet of his little house, he devoted himself to this new search. What a history is compacted in this brief sentence, in which, referring to a day in April 1745, in which it was made unmistakably clear that he was to devote himself to the unfolding of the Word of God, he wrote:

"From that day I gave up the study of all worldly science and laboured in spiritual things, according as the Lord had commanded me to write."

"Laboured." The word is not too strong, for it was devotion and toil of high degree. The ambitions of the discoverer had given place to a deep desire to be taught of God. For in those living spheres to which he had been brought, he had nearly everything to learn; and he approached his new mission with the trained mind of a scholar, but the teachable spirit of a disciple. The very style of his writing changed. All the brilliant play of the imagination, the rhetorical flights, disappeared. He wrote in a new character: not as one flushed with excitement in the success of his investigations, but as one whose chief concern it was to set down accurately the things which he was taught through the mercy and by a wisdom infinitely above him and increasingly dear to him. In turning from his foregone life (observes a writer) to that which now occupies us, we seem to be treating of another person—"of one on whom the great change has passed, who has tasted the blessings of death, and disburdened his spiritual part of mundane cares,

sciences and philosophies." I think Henry James put it finely when he said—

"His books teem with the grandest, the most humane and generous truth; but his reverence for it is so austere and vital that, like the lover who willingly makes himself of no account beside his mistress, he seems always intent upon effacing himself from sight before its matchless lustre. Certainly the highest truth never encountered a more lowly intellectual homage than it gets in these artless books; never found itself so unostentatiously heralded, so little patronized, in a word, or left so completely for its success to its own sheer unadorned majesty."

Swedenborg's claim was that through the divine mercy he was brought into a state of spiritual illumination, and into the possession and exercise of spiritual sight. This state of illumination, however, was not given suddenly. It was gradual. It came like the day-dawn; faint at first, but brightening and ever brightening into the clear light of day. He began with the Scriptures; mastered, as I have said, the languages in which they were written; translated them; pored over them; seeing with ever clearer vision the deeper language of correspondences in which they are written, and truths of infinite wisdom flashing within their depths. Slowly, steadily, rejoicingly he carried on this work; writing out the new and wonderful things which he was divinely enabled to see. Sometimes the heavenly truth within a passage would shine out with especial brightness, and he would write at the end of his notes: "These things are true and given of the Lord."[1] Sometimes it would be otherwise, and he would write: "These things are now very obscure to me."[2] But with increasing certainty and joy his understanding was opened that he might understand the Scriptures; and with him, under God's great guidance, it became literally true, that beginning at Moses, and in all the Prophets, and in the Psalms, he saw that, which, in a more general way, the Lord had made it possible for the apostles to see: *he saw the things concerning Him.* The Law, the Prophets, the Psalms, the Gospels, the Book of Revelation —in whatever part of the divine canon he searched; be it among its histories, its rituals, its ordinances, its songs, its precepts, the result was always the same: some truth that spoke of Jesus Christ and His great work of redemption and glorification. It was the old apostolic experience: the

[1] *Adversaria*, no. 7647 [2] *Ibid.*

opening of the Scriptures, as if once more the Lord was saying: "Look; they testify of Me."

And out of the opened Scriptures there was disclosed in more than its old-time glory the supreme truth in which Christianity had its rise: the sole divinity of Jesus Christ. Theology perverted this truth into the doctrine, which brought bewilderment and spiritual darkness, that the Lord Jesus was one of a trine. The reopening of the Word of God brought back the simple, soul-satisfying truth that the Trinity is in the Lord, Who, in His Divine and Glorified Humanity, is the sole object of the Church's faith and adoration. It was as if to this restorer of the central truth of the Gospels, the spirit of the Lord was saying, as it once said to Philip: "Believest thou not that I am in the Father, and the Father in Me?"

It was granted to him to have his spiritual senses opened. He could see. He could hear. But here, again, his power of perception brightened as he went on. For it was not only a new world to him, but a vast one; and its forms, its distinguishing qualities, its modes and principles of life, had to be acquired progressively. Referring to this, he says in the work entitled *Heaven and Hell*:—

"I was elevated into heaven interiorly by degrees; and in proportion as I was elevated, my understanding was elevated, so that I was at length enabled to perceive things which at first I did not perceive, and, finally, such things as it had been impossible for me to comprehend."[1]

One of the impressive and reassuring features about this phase of Swedenborg's experience is that he held it as sacred. He made no parade of it, rarely spoke of it to others, sternly and persistently refused to use it for the gratification of mere curiosity. Here, as in everything else, he was the trained student. And something more: he was a man sent from God; and, if one has a right to judge, his consecration was absolute. For twenty-seven years he pursued his high course; without a trace of egotism, intent on fulfilling faithfully the mission to which he had been called. The days of his seership were, for the most part, quiet days. But they were busy ones. He wrote; he published; going abroad for the purpose, usually to London. A denizen of both worlds, his footing seems to have been sure in each. The man who had begun with the study of the common elements of the world moved tirelessly, reverently on in the living spheres of the spiritual world.

[1] No. 131.

In the one case he had been an explorer; now, like John the Baptist who protested that he was not worthy to bear the sandals of his Master, he counted it his highest honour to subscribe himself "Servant of the Lord Jesus Christ."

"I had not expected," he wrote to a friend towards the close of his life, "to come into the spiritual state in which I am now. My purpose had previously been to explore Nature, chemistry, and the sciences of mining and anatomy."

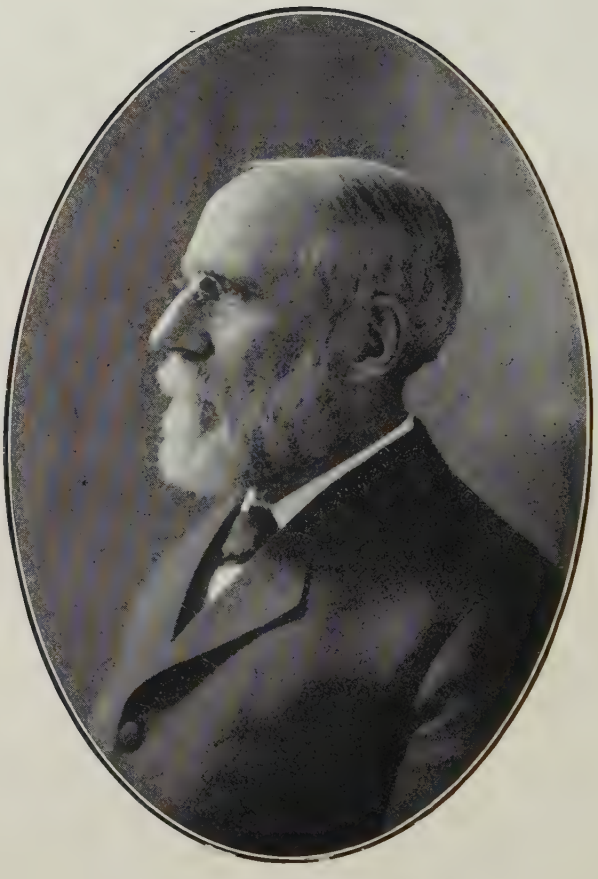
This twofold life, how unique it was! Over what vast stretches of natural and of spiritual knowledge it passed! What a wealth of observations, principles, doctrines, interpretations, was it given to this one man to leave to the world!

"The loudest call," writes Dr. George A. Gordon, an acknowledged leader of the Congregational Church in America—"the loudest call . . . is for the man who shall fathom the significance of the Word that is nigh our humanity. There is little hope for the profounder and more vital ascertainment of the content of the Christ fact and conception, unless there shall be sent from God a man with the gift of sight . . . He will possess the equipment of learning . . . and he will surprise the world with new revelations of the eternal realities of Christian faith."[1]

Has not such a man been sent? A man with the fullest equipment of learning? A man with the gift of sight? Has he not revealed celestial deeps within the Word, and in them disclosed the Christ fact and conception in power and great glory? Has he not worked with tireless industry? Has he not borne his high testimony fearlessly and with transparent honesty? "A man," exclaimed Carlyle—and I think that the three words with which he sums up the impression which Swedenborg made upon him are the most expressive that can found—"a man beautiful, lovable, tragical to me." "Beautiful" because of the high purpose which actuated him through all his life; "lovable" because of the calm, dauntless spirit in which he lived and did his work; "tragical" because of the loneliness of soul which any man must feel who finds but few ready to share or even to take notice of the priceless things which he would bring them.

I think of those splendid lines of Browning in which he celebrates the man, who, living all his life to gain true knowledge, passes of necessity beyond the comprehension of the crowd, who only think of him as odd, not knowing how

[1] *The Christ of To-day*, p. 33.



REV. JAMES REED, [p. 235
Pastor of the Boston New Church Society, Mass., U.S.A.

long, how nobly he has wrought. The poet represents the students of their dead leader bearing his body to the top of a mountain as the only fit place of burial for such as he. As they go with their quiet burden, they say to each other:

"Let us begin and carry up this corpse,
Singing together.
Leave we the common crofts, the vulgar thorps,
Each in its tether
Sleeping safe on the bosom of the plain,
Cared for till cock-crow!

Look out if yonder be not day again
Rimming the rock-row!
That's the appropriate country; there, man's thought
Rarer, intenser,
Self-gathered for an outbreak, as it ought,
Chafes in its censer.
Leave we the unlettered plain its herd and crop;
Seek we sepulture
On a tall mountain, citied to the top
Crowded with culture.
. . . . .
Here—here's his place, where meteors shoot, clouds form,
Lightnings are loosened,
Stars come and go! Let joy break with the storm,
Peace let the dew send!
Lofty designs must close in like effects:
Loftily lying,
Leave him—still loftier than the world suspects,
Living and dying."[1]

SWEDENBORG'S TEACHING ON THE DIVINITY AND HUMANITY OF JESUS CHRIST

By Rev. James Reed, Boston, Mass., U.S.A.

Through science and philosophy Swedenborg advanced to higher things. From a knowledge of the body he ascended to a knowledge of the soul. While studying the phenomena of nature he was ever looking to the God of nature. That God from the beginning was always present to his thoughts. Never, apparently, had his mind been shadowed by doubts about Divine revelation. Years before he began to write on distinctly spiritual subjects he had expressed himself as follows in a philosophical treatise: "The end of reason can

[1] *A Grammarian's Funeral.*

be no other than that man may perceive what things are revealed, and what are created. Thus the rational cannot be contrary to the Divine; since the end why reason is given us is that we may be empowered to perceive that there is a God, and to know that He is to be worshipped.

Living and working in this spirit, Swedenborg reached the confines of mere earthly knowledge. Then, as he tells us, he was permitted to cross the boundary-line between the natural and the spiritual. Heaven itself was opened to him, and he was made cognizant of things generally hidden from mortal sight. He was enabled to perceive deeper truths in the Scriptures than had been previously visible. Thenceforth, for the remainder of his life—a period of twenty-five years—his thoughts were given to these loftier themes. Volume after volume was published, setting forth the inner meaning of the Bible, the facts concerning the other world, as he was led to see them, the relation of that world to this, and the nature of God's dealings with men. There was, indeed, no subject of spiritual interest which did not receive amplest consideration in his printed pages. He gave to the world a complete new system of theology. He proclaimed that the Second Coming of the Lord had taken place, that a new Christian Church was about to be established, and that a new age was dawning. The hope of his life was realized. The precious knowledge he had ever sought was vouchsafed to him. He had found his God. Mathematics, chemistry, mineralogy, anatomy, physiology, psychology, whatever, as a scientist and philosopher, he had so strenuously pursued in his early days, were now laid aside for religion. He had followed them as far as they could lead. They had grandly done their work, and he set forth on a fresh voyage of discovery. No earthly honours and titles now attracted him. He was content to be known only as the "servant of the Lord Jesus Christ."

Never before or since has such a marked transformation taken place in the career of any man. From first to last the theology of Swedenborg is clear and consistent. There is no ambiguity or wavering about the God of his worship. His interpretations of Scripture flow on connectedly throughout. The premises which he lays down at the beginning are the foundation on which he builds to the close. The question which the Christian Church has always asked, and is still asking, "Who was Jesus Christ?" receives from him but one unhesitating answer. He was, and is, "Emmanuel (God with us)." His birth and life on earth

were the fulfilment of all previous prophecy. In Him Jehovah Himself was made manifest. The Creator of men became their Redeemer. Beside Him there is no Saviour.

Let me try to unfold the doctrine on this subject as briefly and concisely as possible.

First and foremost, God is one in essence and in person. This is the absolute and unalterable truth, which forms the basis of a right conception of Him. His perfect unity is no more to be questioned than is that of a man that is made, as we are taught, in the Divine image and likeness. To think of Him as divided, or as being in any sense other than one, is not only to think irrationally, but to oppose the whole letter and spirit of the Old Testament.

Secondly, God is infinitely good and wise. Yea, He is love itself and wisdom itself. These are His very essence. They constitute what may be termed His Divine personality. From infinite love according to infinite wisdom, He has created man, and the universe for his sake. From and by the same influences He watches over, and preserves, them. We live, because He loves us; we are kept alive, because He cares for us. Not for this world only do we live, but the teaching is that His love, seeking objects on which it may be bestowed, and by which it may be reciprocated, has ever in view our eternal happiness. The end or purpose of creation is the building up of a heaven of angels from the human race. To the accomplishment of that end all the leadings of Providence, in general and in particular, are unfailingly directed.

And so it came to pass that, when man had become almost wholly subject to evil and infernal influences, their Heavenly Father in His love and pity redeemed them. The good Shepherd went in search of His wandering sheep. When all other means failed, His own arm brought to them salvation. This was the supreme exercise of that love which had always been put forth on their behalf. It was, as I have said, the fulfilment of Jewish prophecy. In the Old Testament Scriptures we are made familiar with passages like these: "Behold, the Lord Jehovah will come with strong hand"; "Unto us a child is born, unto us a son is given; and His name shall be called . . . the mighty God, the everlasting Father." So it was not a second Divine person who came, but the one infinitely loving Creator Himself.

Thirdly. But how did He come? There is only one way, indeed, in which this would be possible. He must accommo-

date Himself to the finite states of men. He must veil His infinite glory, in order to draw near, so that they might see and know Him. And this He did by taking on Himself their nature, and dwelling as a man among them. By the voice of His outward visible Humanity, He said, "I and the Father are one"; "No one cometh to the Father but by Me"; "He that hath seen Me hath seen the Father."

Thus plainly did the birth of Jesus Christ bring to view a being in whom the Divine and the Human co-existed, as they had never done before. The long-promised Messiah presented Himself as one who was inwardly God and outwardly man. Such an event had never previously occurred in the world's history, nor would it ever occur again. Yet was there no disturbance of the usual order of creation. One might easily imagine that, if God were to appear in visible form on earth, He would fashion a body out of the elements, and exhibit Himself in majesty, as a man full grown, before the wondering eyes of all the nations. But, on the contrary, He was born as a babe, and advanced through childhood and youth to adult manhood. That is to say, His assumed humanity was brought, little by little, to its fulness. Like other men, "Jesus increased in wisdom and stature." So did He pass through all the stages and experiences of man's normal life. The one thing exceptional about Him was that He had no human father. Hence that part of His nature which is derived from the Father was not finite and imperfect, but infinite and Divine. It was rightly called the Son of God. Yet was it not distinct from God, but God Himself so far as He could receive embodiment in outward human form. That embodiment, as we shall presently see, was gradually becoming more and more complete until it was made full by His resurrection and ascension.

Be it then recognized that, in our Lord, Divine and human nature came together in a marvellous and unique relationship. Exteriorly to Himself God provided an earthly body to dwell in, with all things appurtenant to it. Derived from the Virgin Mary, it partook of her limitations and infirmities. In other words, it was prone to evil and subject to temptation. These tendencies descended to her, as to all human beings, from her ancestors. And through her they were transmitted to the child whom she brought forth. For this reason He could be, and was, as the Gospels tell us, tempted by infernal spirits. Far above the reach of any such influence was the Divine within Him; for it was goodness itself. But of the Human we read that He was "a man of sorrows, and

acquainted with grief." We know how He "was despised and rejected of men," betrayed, condemned and crucified. But these external indignities and sufferings were as nothing compared with the internal conflicts which accompanied them. All the power of Hell was brought to bear against Him. But the temptations which He thus endured gave Him His opportunity. For He was always victorious; and, conquering for Himself, He conquered for all mankind. He destroyed the ascendency which the hosts of darkness had established over men. He caused new light to shine into their minds, and restored to them the freedom which they had wellnigh lost. In short, He made sure, to all who would receive them, the essential conditions of salvation.

Such was the redemption which God wrought by the revelation of Himself in Jesus Christ. Without the assumption of man's nature this work would have been impossible. The very imperfections of that nature were the means whereby the victory over evil was assured. It was as when the wicked husbandmen in the parable said, "This is the heir, come, let us kill him, and the inheritance shall be ours." His human weakness and helplessness, as they thought, would make Him their easy prey; and so they laid siege to that external humanity which resembled all that is born of woman. In the graphic language of the Psalms, "They made a pit, and digged it, and are fallen into the ditch which they made"; "In the net which they hid is their own foot taken."

This, then, is the picture which is set before us. To the disciples and others who looked upon Jesus Christ He appeared to be a man like themselves, though wondrously wise and good. He had the same physical needs as they had. After His long fasting in the wilderness He hungered. On the cross He cried, "I thirst." He was wearied with His journey, and sat on Jacob's well. In the fishing-boat on the Sea of Galilee He fell asleep. We know, too, of the deeper experiences through which He passed. They were those which, in a lesser degree, may come to any man. He had His human joys and sorrows. We read of His compassion on the sick and suffering. He wept at the grave of Lazarus. The severe struggles already mentioned as His temptations are everywhere manifest. "Foxes have holes, and the birds of the air have nests, but the Son of Man hath not where to lay his head." To deny themselves and to take up the cross is the lot of all who follow Him.

This is the aspect which our Lord's human nature

outwardly presented. Distinct from the Father who dwelt within it seemed like another person. Yea, it had the sense of separateness from God, and of dependence on Him, which is common to mankind. Thus is explained the fact of Jesus praying to the Father, and receiving from Him responses. He had the same need of Divine help that pertains to us all. There were times when He felt the Father's presence in Him more strongly than He did at others. Accordingly, we find Him saying, "Thou, Father, art in Me, and I in Thee." But again He utters the despairing cry, "My God, My God, why hast Thou forsaken Me?" Between these two states He is constantly alternating. From the feeling of emptiness and desolation He is repeatedly exalted to the consciousness of Divine joy and peace, or the reverse; until, at last, His oneness with the Father becomes the permanent condition of His life, the great overwhelming fact of His experience.

See how the two natures, the Divine and the Human, are shown in their relation to each other. On one occasion Jesus said, "I came down from Heaven, not to do My own will, but the will of Him that sent Me." What was His own will, but that of the natural man born of Mary? What was the will of Him that sent Him, but that of God Himself? The one is the will of the human selfhood—the desire which all men have for worldly power and pre-eminence. The other is the perfect love which seeks only the welfare and happiness of those whom it has created. The one was appealed to, when, according to the Gospel story, the devil took our Lord up into an exceeding high mountain, and showed Him all the kingdoms of the world and the glory of them, and said, "All these things will I give to Thee, if Thou wilt fall down and worship me." The other found expression in such sayings as this, "The words that I speak unto you I speak not of Myself, but the Father that dwelleth within Me, He doeth the works." Both the higher and the lower will are brought to view in the prayer, "O My Father, if it be possible, let this cup pass from Me: nevertheless not as I will, but as Thou wilt." Here is a difference, divergence, even conflict, between the Divine and the Human within Him; but at last comes perfect conciliation and union.

In the little baby form cradled at Bethlehem the indwelling Divine life was but faintly manifest. Yet the germs of that life were there. We see it gaining in power and fulness more and more as time goes on. The boy of twelve years astonishes the doctors in the Temple by His understanding

and answers. He also shows a growing consciousness that he is not like other men. His question, "Wist ye not that I must be about My Father's business?" addressed to Joseph and Mary at that early age, betrays His perception of a paternity that was more than human. He felt the movement of those deeper springs of being which, with ever-increasing force, welled up within Him to the close. Continuing always was the process known as His glorification, then in its feeble beginnings, but at last fully consummated.

That process, which was the gradual bringing of the Divine and the Human into a perfect union with each other, is the inner story of the Gospels. Yea, as we shall presently see, it is the inner story of all the Scriptures. Our Lord was ever putting off the Human inherited from the mother, and putting on a Divine Human from the Father in its place. With every temptation that was resisted came a fresh accession of strength from above. With every finite infirmity that was removed, an opening was made for the inflow of God's own life. Each victory over the Human selfhood gave infinite Love more complete possession of the Saviour's heart. And so, by one step after another the Son of Man was filled with God.

To use Swedenborg's expressive language, "God became man, and man God, in one person." That is to say, God came into the world by clothing Himself with man's nature. This was the first step. But that nature did not remain unchanged. By the successive experiences through which it passed it was wholly transformed. Freed from the limiting conditions of finite humanity, it grew more and more Divine, it came into closer and closer relations with the Father, until finally, as has been said, the union was complete. Thus the Human became the perfect receptacle and medium of the Divine glory. The infinite Father dwells in the Son, like a man's soul in his body. No longer are there two natures, two wills, contrasted with, and distinct from, each other. But the will of God finds its outlet and expression in the Divine Humanity of Jesus Christ. So did man become God, as God had become man, in one person.

The Passion of the Cross has been regarded as the great decisive event by which our Lord effected the redemption of mankind. But a larger view of the subject shows that it was only one in a series of events whereby he overcame the enemies of men's souls and made His Humanity Divine. It was the culminating experience, the last and most grievous

of his temptations, at the end of which He said, "It is finished," and was seen no more until, on the third day, He rose again. Then He appeared in a new aspect. His relation to His disciples and others who beheld Him was wholly changed. They saw Him only with spiritual eyes. He stood in the midst of them and vanished out of their sight, as they sat within closed doors. He inspired in them a peculiar awe and veneration which they had not previously known. "My Lord and my God!" was the exclamation of Thomas. The other disciples worshipped Him; but, when some doubted, Jesus came and spake unto them, saying, "All power is given unto Me in Heaven and on earth." There ought surely to have been no doubt about the matter; for He who has all power in heaven and on earth is alone worthy of worship.

During those last days of the Lord's intercourse with His disciples He told them of His fulfilment of the Scriptures. On former occasions He had said that He came not to destroy the law or the prophets, but to fulfil. Sundry examples of this fact had been given by Him from time to time. And now that He was about to depart from this world as one personally visible, He gave still more specific information. "Beginning at Moses and all the Prophets, He expounded to them in all the Scriptures the things concerning Himself." He made it plain that events had come to pass just as had been foretold. There was not a jot or tittle of the inspired word which was not realized in His experience. In Him, as we know, "the Word was made flesh and dwelt among us." Divine truth became living and actual in His perfect human life. That truth did not lie everywhere visible on the mere surface of the Old Testament. It was not like nuggets of gold glittering in plain sight before the eyes of all; but it was largely hidden, as it were, below the ground. The disciples had not perceived it till their Lord brought it to view. Accordingly we read that "He opened their understanding that they might understand the Scriptures," and then declared the things concerning Himself, which are contained "in the law of Moses, in the prophets and in the Psalms."

Thus it is that the Lord and His Word are one. Wherever in the Scriptures we may search for Him, there He is to be found. No other book in the wide world gives us knowledge of Him. Were the Bible to be blotted out of existence and remembrance, we should not know that Jesus Christ had ever lived on earth. But in its holy pages we have the

record of His life, and of the union of Divinity and Humanity in Him. He is prefigured by all the patriarchs and prophets of old. The history of the Israelites is representative of His history. David the shepherd-boy, David the warrior, David the king, David in his afflictions, in his joys, and in his triumphs, is the recognized precursor of our Lord. The same is true of Solomon in all his glory. He stands for one greater than Solomon. The very soul and essence of Scripture is the Life of that greater one. The temptations by which His Humanity was assailed, the victories which He gained in them, the redemption which He wrought for men, the way in which He glorified His Humanity, and made it Divine—this is the real inner story of the Old Testament, fulfilled in the New. God and man brought together, and united, in one person—this is indeed the story of stories, the crowning event of all the ages. It means, to those who truly apprehend it, that God is made real and intelligible. He is revealed to us in all His glory and fulness as our Lord and Saviour Jesus Christ. In Him is a Divine Trinity, but not a Trinity of persons. "These three," says Swedenborg, "the Father, Son and Holy Spirit, are three essentials of one God, which make one, like the soul, body and operation in man. The Father is the inmost uncreated life, whence all life flows; the Son is the Divine Human nature whereby the Father is revealed; and the Holy Spirit is the Divine sphere or influence which goes forth from Him. 'Receive ye the Holy Spirit,' He said to His disciples on one of the last occasions when they saw Him; and what the Holy Spirit was He showed by breathing on them."

Such, briefly and imperfectly stated, is Swedenborg's teaching on the Divinity and Humanity of Jesus Christ. The light came to him, as he tells us, from the Lord alone, when he was reading the Word. To him it was a new revelation of Christian truth, on which the Church of the future shall rest as its foundation. To have come into the knowledge of it, and to be empowered to communicate it to others, was, in his view, the culmination of his life's work, and, under Divine Providence, the highest service which he was enabled to perform for mankind. So does it seem to those among us who accept the teaching, and feel that by means of it we have been brought into a living relationship with our Lord. It is the fulfilment of the saying, "This is life eternal, that they might know Thee, the only true God, and Jesus Christ whom Thou hast sent."

AFTERNOON SESSION

EXEGESIS AND SWEDENBORG'S SCIENCE OF CORRESPONDENCE

By the Rev. James F. Buss,

Professor of Exegesis and Church History in the New Church College, London.

The form in which the subject allotted to me is announced implies that the two subjects which it mentions, "Exegesis" and "Swedenborg's Science of Correspondence," involve one another, and that, for the present purpose, we are not to be concerned with either of them on its own merits, but with each solely in its relation to the other. Hence, our attention to Exegesis is to be limited to the bearing of Exegesis upon Swedenborg's Science of Correspondence; and, on the other hand, our attention to Swedenborg's Science of Correspondence is to be limited to its bearing on the subject of Exegesis.

Correspondence, according to Swedenborg, may be roughly defined as the relation existing, by creation, between what is spiritual and what is natural; and the mutual relation existing between the spirit, or mind, of man, and his body, may be taken as the outstanding type of the nature of the relation meant by the term "correspondence."

That a definite mutual relation does exist between these two essentials of a man in this world, no one can be unaware; and, further, that the relation is not arbitrary or artificial, but strictly natural, involved in the nature of the things concerned, being in fact the very order of their existence, imprinted upon them by their creation; that the dominant factor in the combination is the spirit, and the subordinate the body, or, that the spirit is the master, and the body the servant; and that every voluntary action of the body is the effect and product of some cause in the spirit, and thus that the relation that exists between them is the relation of cause and effect—all these things, also, are well known to every one.

Now, Swedenborg's doctrine of Correspondence teaches that there is just such a relation as this, in the universe at large, between every natural thing and some specific spiritual thing, and that, in fact, the natural universe, as a whole and

in every least part, is the effect, and as it were the body, of a spiritual universe which dominates and animates it, in the way in which the human spirit animates and dominates the human body in the individual man.

The bearing of this doctrine upon Exegesis is seen when we observe that Exegesis is the science of the Interpretation of the Word of God. For it is at once manifest that such a doctrine as has been defined can only have a bearing of any sort upon the Interpretation of the Word, if the Word has a "spirit" and a "body," or, at all events, if it has two elements which stand to one another in such a relation as that in which the spirit stands to the body of a man. The case herein, we read in the *Arcana Cœlestia*, is this: "Each and all things which are in the natural world have correspondence with those which are in the spiritual world . . .; and the WORD is so written that the expressions therein, in their series, involve a series of spiritual things which do not appear to man unless he be acquainted with correspondences" (*A. C.*, 10633).

But, further, interpretation is the elicitation of *meaning;* consequently, the two "elements" in the case of the Word must be two "meanings"—or senses—a spiritual meaning or sense, and a natural meaning or sense. If, therefore, the Divine Word has *not* a spiritual sense over and above the natural or literal sense which it is universally admitted to possess, then Swedenborg's doctrine of Correspondence has simply no bearing upon Exegesis, and cannot be linked with it. It becomes indispensable, therefore, for us to determine, forthwith, whether the Word of God does contain a spiritual sense in addition to the literal.

This, of course, brings up a very old controversy—the legitimacy, or otherwise, of an "allegorical" interpretation of the Scriptures; which practically all Protestant writers on exegetics outside the New Church are agreed in regarding as finally settled in the negative. It is true that most expositors admit a *sort* of spiritual sense; what they call a "spiritual interpretation" of the Word, but which might more accurately be called a spiritualizing, or a spiritual application, of the literal sense of it—in reality a widely different thing; but none, of a certainty, regard the "spiritual sense," so called, thus educed, as primary and fundamental, and the literal sense as subsidiary and, by comparison, unimportant. Still less would they regard their "spiritual sense" as being related to the literal in the manner in which the spirit of man is related to his body.

Time will not permit of our discussing, or even reviewing, however slightly the controversy on this vexed question; nor would it be profitable for us to do so. We propose to base the discussion, from the outset, not on the opinions or practice of the human expositors of the Word down the Christian ages, but upon the Word of God itself, and the express *dicta* of its Divine Author when He dwelt in this world in human flesh.

Our appeal to the Word will look chiefly to the method of interpretation there exemplified; and the examples relied upon will be taken from those places in the Gospels which declare that in such and such events related in them, certain Old Testament Scriptures were "fulfilled."

It can scarcely have escaped the notice, one would think, of any critical student of the New Testament, that, in hardly a single instance, do the Old Testament Scriptures appealed to in these cases justify the appeal on a literal interpretation. Take one of the first of them, the carrying of the infant Jesus into Egypt to escape the murderous purpose of Herod. This took place, it is said, "that it might be fulfilled which was spoken of the Lord by the prophet, saying, Out of Egypt have I called My Son" (Matt. ii. 15). As these words were fulfilled in this incident, they must have been spoken of Jesus; *i. e.* He, Jesus, must have been the "son" referred to by the prophet. But this is not the case: the words were spoken of the nation Israel: "When *Israel* was a child I loved him; and I called my son out of Egypt" (Hos. xi. 1). Again, Jesus's practice of speaking in parables is pointed to, in Matthew xiii. 35, as a fulfilment of that "which was spoken by the prophet, saying, I will open my mouth in parables; I will utter things which have been kept secret from the foundation of the world." The "prophet," in this case, is the Psalmist, David, in the 78th Psalm; where the words run, "I will open my mouth in a parable; I will utter dark sayings of old" (verse 2), and refer manifestly to the Psalm at the beginning of which they stand, and are spoken concerning the Psalmist himself. Once more: the Lord Himself said that His betrayal by Judas, one of the inner circle of those who received Him at His coming into the world, took place "that the Scripture might be fulfilled, He that eateth bread with Me hath lifted up his heel against Me" (John xiii. 18). The "Scripture" thus specified is Psalm xli. 9: "Yea, mine own familiar friend, in whom I trusted, which did eat of my bread, hath lifted up his heel against me" and is uttered by the Psalmist in his own person, and

manifestly concerning himself. Again, when relating the fact that the soldiers did not break Jesus's legs when they reached His cross, because they found that He was dead already, and that one of them pierced His side with a spear instead, the narrative breaks off to say: "These things were done that the Scripture might be fulfilled, A bone of Him shall not be broken" (John xix. 36). This "Scripture" appears to be Exodus xii. 46: "Neither shall ye break any bone thereof;" where the Passover lamb is what is in question!

To any one who accepts the New Testament, there is no escaping the testimony of these examples. Every one of the "Scriptures" appealed to is declared to be "fulfilled" in something that occurred to the Lord when He was on earth: in their literal sense, in the Old Testament, not one of them even appears to refer to Him. They manifestly and unmistakably refer, one to the nation Israel, one to the Passover lamb, and the rest to David. They can only have been "fulfilled" in Jesus if they were spoken of Jesus; and as they were none of them spoken of Jesus in their *literal* sense, they must all of them have carried *another sense* than the literal, in which David, the national Israel, and the Passover lamb stood for, or represented, the Lord Jesus Christ. In the case of the Passover lamb, it is interesting, and it may be additionally convincing, to hear the Apostle exclaiming, "Christ our Passover" (*i. e.* our Passover lamb) "is sacrificed for us." And the peculiarity characteristic of all these cases is the habitual characteristic of all similar cases in the Gospels; and establishes the fact that the method of interpretation applied in the Word is *not* the literal, but a representative one.

Evidence might be adduced, did time permit, showing that the whole Word, in both Old and New Testaments, is constructed on the "parabolic" plan; according to which, within the outer story, or literal sense, there is a heavenly or spiritual meaning, which is, moreover, the real meaning intended, and thus the essential meaning. But time does not permit; and we must pass on to the *dicta* of the Divine Author of the Scriptures, the One Eternal God Himself, when He dwelt in this world in human flesh in the Person of Jesus Christ. The *dicta* we appeal to will be found to have a remarkably direct bearing upon our purpose in the present paper, as not only (i) establishing clearly the existence of a spiritual sense in the Word in addition to the literal, but as (ii) exhibiting the spiritual

sense as superior to and incomparably more important and precious than the literal, and as (iii) being related to the literal as a man's spirit is related to his body.

On one occasion, the Lord was declaring that men must eat His flesh and drink His blood; and the Jews who heard, said—not unnaturally—"How can this man give us His flesh to eat?" Whereupon Jesus, instead of withdrawing the astounding assertion He had made, repeated and emphasized it, and afterwards rebuked them for taking His words literally, and thinking that when He said "flesh" and "blood" and "eating" and "drinking" He was referring to the natural things and actions so named; and wound up with a general teaching applicable to all His utterances: "It is the spirit that quickeneth: the flesh profiteth nothing; the words that I speak unto you, they are spirit and they are life" (John vi. 63). The whole context in which this *dictum* occurs, establishes, beyond the possibility of question, *first*, that "the spirit" means nothing less than the spiritual *sense*, and "the flesh" the literal *sense*, of His words. The mistake of the Jews was that they had put a literal construction upon them; whereas they were "spirit," and, therefore, ought to have been taken or interpreted spiritually; in which case it would have been known that the "flesh" and "blood" and "eating" and "drinking" of which Jesus spoke were not the material things and bodily actions they had assumed, but spiritual things and spiritual actions—which, however, He did not even then expound to them. *Secondly*, the statement, "It is the spirit that quickeneth: the flesh profiteth nothing," is made respecting His "words"; that is to say, it means that there is a "spirit" to His "words" and a "flesh" to them; or again, that His "words" have a "spirit," or spiritual sense, as well as a "flesh," or literal sense. *Thirdly*, that the spiritual sense He thus affirms, is superior to, and incomparably more precious than anything that they could hope to get out of their literal sense. *Fourthly*, that the spiritual sense is the real and essential thing about them, and the "flesh," as it were, only an accessory: "The words that I speak unto you, they *are* spirit and they are life." They *have* "flesh," it is true; but they *are* "spirit." But, *lastly*, and most important of all, we perceive that the word "flesh," here,—"the flesh profiteth nothing,"—is used in the sense of "body," and the Lord's ascribing to His words "spirit" and "flesh," or body, puts His words before us as a MAN, consisting of soul and body; which is exactly what we saw, earlier, to be the character

presupposed for the Word of God, by Swedenborg's doctrine of Correspondences. Accepting the Lord's own *dictum* concerning His "words," therefore, we learn that they, at all events according to Him, possess two senses, a spiritual and a natural, which are related to one another as the spirit and body of a man are related to one another, and which must, therefore, mutually "correspond," and to which Swedenborg's doctrine of Correspondence bears a counterpartal relation, which is full of promise as an organon of exegesis for the Word.

It may still appear, however, that even though the validity of all this be admitted, it only establishes the position so far as the words of Jesus are concerned, and justifies no extension of the claim to any other words in the Scriptures; consequently, not to those portions of the New Testament, constituting the greater part of it, which do not consist of His very words, and not to any part of the Old Testament.

Let us, then, look further into the matter, and, first, at this *dictum* yet again: the expression, "The words that I speak unto you are spirit and they are life," means that it is the universal characteristic of His words, by virtue of the fact that they are *His* words, *to be* "spirit" and "life." This is not the characteristic of the words of ordinary men; not of mine, nor of yours, nor of any other man's, living or dead, that any of us could name. How came it to be the necessary character of HIS words? This is not the only direct statement made by the Lord respecting His "words" that is preserved for us in the Gospels. On another occasion He said: "The words that I speak unto you, I speak not of myself: THE FATHER that dwelleth in me, He doeth the works" (John xiv. 10). The bearing of the latter declaration upon His "words," which He had already declared He did not speak of Himself, is, that "the Father" was the real speaker of them. This was the unique character of the words that the Lord Jesus Christ spoke when He was in the world—that He did not speak them of Himself, but that it was really God, the Father, who dwelt in Him, that spoke them. Can there be any doubt that they derived the unique characteristic He claimed for them in His other teaching respecting them, "The words that I speak unto you, they are spirit, and they are life," from their unique character of being really *God's* words? On the whole, I have the utmost confidence in claiming this unique character of the "words" that the Lord Jesus Christ spoke, as the circumstance from which they derived the not less unique characteristics He predicated of them: "they are spirit and they are life."

And now, see where this has brought us: the "words" of Jesus had this quality because He did not speak them of Himself, but "the Father," God, who "dwelt in Him," spoke them —because, that is to say, they are GOD'S words! That, therefore, is the *necessary quality* of God's words, that is of whatever words GOD speaks, of all God's words, wheresoever they may be found and through whomsoever spoken: being GOD'S words "they are spirit and life," and every characteristic and quality that is implied in that predicate belongs to them. And all the other parts of the Divine Word, in both Old and New Testaments, are, by the hypothesis that it is the "Word of God," just as much the words of God as those that issued from the human lips of Jesus. Of them, also, and thus of the whole Word of God, it is equally true, that *they* "are spirit and they are life," that it is their "spirit that quickeneth," and that their "flesh," or body, "profiteth nothing," and thus that they *have* a "spirit," or spiritual sense, *and* a "flesh," or body, or natural sense; which senses stand to one another in a relation of mutual correspondence, such as exists between the spirit and the body of a man!

Much other most conclusive evidence could be adduced from the Scriptures in proof of the position that they are of this description; but all the additional strength that our argument might derive from the extension and elaboration of it in that direction, we must forego for lack of time. With many who do not see their way to refute the considerations here advanced, it has been felt to be a difficulty, throwing some doubt on the conclusions arrived at, that, if the position is granted, it follows that the world, which has possessed the Word of God for so many centuries, has not known its true and essential meaning all that time, and does not know it now. Of what use, it may be urged, is a revelation of that description? We answer: First, even in the "flesh," or letter, of the Divine Parable of the Word, there is much that is *relatively* profitable, as all God's children have proved, in their own experience, ever since it has been in the world; and we may safely infer that there is, in its letter, *as much* of spiritual profit and edification as men have been hitherto able to turn to good account. For the Lord, at the end of His earthly career, an hour or two only before Gethsemane, said to His disciples, in the course of that intimate communion with them that accompanied and followed the Last Supper, "I have yet many things to say unto you, but ye cannot bear them now" (John xvi. 12); implying, clearly, two things: first, that if they *could* have

"borne" the things He was compelled to still hold in reserve, He would have imparted them then; and, secondly, that when they, or their successors in later times, should be able to bear them He would impart them: "I have yet many things to say unto you." The second implication here mentioned is fortified by His direct statement, a few moments later, "These things have I spoken unto you in parables: but the time cometh when I shall no longer speak to you in parables, but I shall show you plainly of the Father" (John xvi. 25). There is here foreshadowed, evidently, *a further revelation* which He would at some time give to His Church; which further revelation should be different from the one hitherto given, in the respect that it would not be in "parabolic" form, and so have two senses, a spiritual and a literal, but in the ordinary, plain language of human intercourse: "I will no more speak unto you in parables, but I will show you plainly." And what more probable than that such future revelation should consist of the hitherto withheld spiritual sense of the revelation already fully given in the letter of the Word?

We cannot doubt that the Lord *intended* that men should come into possession of the spiritual sense of His Word at some time. Nor can we doubt that only He, who gave the Word originally, and who, and who alone, therefore certainly *knew* what was in its inner bosom, as well as in its outer form, could make known its inner contents.

It was part of Swedenborg's message to the world, that the Lord has now revealed to men the spiritual sense of His Word, and that it is revealed through Swedenborg himself, and contained in his Writings. The position is, not that Swedenborg has discovered the Science of Correspondences, and with that in his possession has given us an exposition of the internal sense of the Word, by the application of correspondences to its literal sense. By no means; and if any one should say that that is the situation, he bears a testimony which differs from Swedenborg's own. What Swedenborg says about the spiritual sense of the Book of the Revelation, given in his work, *The Apocalypse Revealed*, applies equally to all the other expositions of the spiritual sense of the Word given in his Writings: "Any one may see that the Apocalypse could not possibly be explained *but by the Lord alone*, since every word of it contains arcana which could not have been known without some special enlightenment and hence revelation: wherefore, it has pleased the Lord to open the sight of my spirit and to teach me. Think not, therefore, that anything

there given is *from myself*, or from any angel, but from the Lord alone" (*Preface*, p. v.). That is the position. The Lord Himself, and He alone, has revealed the spiritual sense of His Word.

But what, then, about the Science of Correspondences? If this is not to enable us to find out the spiritual sense of the Word for ourselves, what is it for? What is the use of it? First, it would not enable us to find out the real spiritual sense of the Word for ourselves. That, in the nature of the case, is known to the Lord alone, and can therefore be revealed only by Him. It *has* a use, and a very eminent and necessary one: only it is not *that*. The spiritual and literal senses of the Word prove to be, in many places, so different from one another in appearance, treating, as they do, of necessity, of different subjects—for the spiritual sense of the Word treats wholly of spiritual and heavenly things, whereas the letter treats almost exclusively of earthly ones—that with them only in our possession, it would be impossible to see for ourselves that the spiritual sense assigned really is *the* spiritual sense of the part of the letter to which it is assigned; so that, if we accepted it at all, we should have to accept it in blind faith. But the days of a blind faith are gone; and, in the New Church pre-eminently, in which the revelation of the spiritual sense of the Word is received and taught, rational faith is the order of the day. The very motto of the New Church is "Nunc licet," which, expanded to its full meaning, imports: "Now it is permitted to enter understandingly into the things of faith." And the Science of Correspondence has been given in order to enable men to see, as with their own eyes, that the spiritual sense, which the Lord alone is able to reveal, which He Himself has revealed, and on which they may therefore absolutely rely, *is*, verily, the spiritual sense itself of the portion of the Word concerned in any given case.

A fuller account of Swedenborg's doctrine of Correspondence is now demanded. The fact, noted earlier, that Correspondence, according to Swedenborg's doctrine, is the relation and connection which exists, from creation, between effects in the natural world and their efficient causes in the spiritual world, at once settles the question that the Correspondence with which we are concerned is not, as many mistakenly suppose, the same thing as analogy—although the correspondences, when rightly discerned, often present many points of analogy. The true correspondent of any natural object is, strictly, the entity in the spiritual realm, by means

of which God, in the work of creation, originally produced and perpetually sustains that object in the natural. Correspondence, in Swedenborg's philosophy, is the intrinsic law of creation. This is a fact which must never be lost sight of by any one who hopes for a true grasp of Swedenborg's Science of Correspondence.

It was in virtue of this law, that the correspondences of specific natural objects were revealed to Swedenborg; and it is to this fact that he most constantly appeals in confirmation of the correspondences assigned to the various objects mentioned in the Word, when expounding its spiritual sense.

But the most serviceable, and I think convincing, way to place these points before the mind, is to give Swedenborg's own statements upon them. First, as to the way in which he himself learned the correspondences of the various objects of sense—which objects, it may be well to premise, are precisely the same, to the sense, in the spiritual world as they are in the natural. The senses of spirits and angels and of men whose spiritual senses are open—as with certain of the prophets and with Swedenborg—bring the persons concerned into contact with objects similar, in all respects, to those with which our senses in this world make us acquainted. They perceive exactly similar landscapes, mountains, plains, valleys, rivers, clouds, sky, sun, moon and stars; animals of all genera and species; and all the infinite variety, also, of vegetable life, trees of all kinds, shrubs, plants with their leaves, flowers, blossoms and fruits. In short, there are no objects in this world which are not paralleled in some part of the spiritual world. Well, on one occasion, when Swedenborg was in the spiritual world, an angel said to him in the course of conversation: "I will now show you how animals and plants of all kinds were produced by God;" and then, leading him into a field, he drew his attention to the numerous animals, birds, trees and flowers that were within sight, respecting which Swedenborg says: "I saw birds of most beautiful colours, some flying, some perched on trees, some scattered over the ground and plucking little leaves from the roses: among the birds also were some doves and swans. Not far from me, I saw several flocks of sheep with lambs, and she-goats and kids; and round about these I saw herds of cows and calves, and also of camels and mules, and, in a certain grove, deer with high-branching horns, and also one-horned animals. Towards the east, I saw a garden full of all kinds of fruit-trees—orange-trees,

citrons, olives, vines, fig-trees, pomegranates, and also shrubs laden with berries; and, towards the south, crops of various kinds of grain, such as wheat, millet, barley and beans, and round about them beds of roses, the colours of which were beautifully variegated. Towards the north were groves planted thick with chestnut-trees, palms, lindens, plane-trees, and other shade-trees. When I had seen all this," he continues, "the angel said, 'All these things that you have seen are CORRESPONDENCES of the affections of love of the angels who are near you.' And he told me to what affection each particular thing corresponded; and, moreover, that not only those but also all things that were seen were correspondences, as the houses and their furniture, tables, food and clothing, and even gold and silver coins, together with the diamonds and other precious stones with which the wives and virgins in heaven are adorned. . . . These things," the angel went on, "have been shown you *in order that you may see creation in general exemplified in a particular type.* For God is Love Itself and Wisdom Itself; the affections of His Love are infinite, and also the perceptions of His Wisdom; OF WHICH all things, generally and particularly, which appear on the face of the earth are correspondences. From them are the birds and beasts, trees and shrubs, corn and all kinds of grain, with herbs and grass of every kind. For God is not spatial, but still He is in space everywhere, and consequently in the universe from primaries to ultimates; and, since He is Omnipresent, such correspondences of the affections of His Love and Wisdom exist throughout the whole natural world; while, in our world, which is called the spiritual world, similar correspondences exist with all those who *receive* affections and perceptions from God" (*T. C. R.*, 78). The point of which is, of course, that all objects of sense in heaven are simply the affections of the Divine Love and the perceptions of the Divine Wisdom which *have been received in the minds of the angels*, flowing forth to the plane of sense, and becoming ultimated there in the spiritual substances of that world. This is the law of creation; and it makes no difference which world, the spiritual or the natural, is the scene of it. Objects of sense are simply affections of the Divine Love and perceptions of the Divine Wisdom clothed in the ultimate substance of whichever world they exist in. In the spiritual world, those Divine Affections and Perceptions are first received in the minds of the angels and become of their mental life; and the corresponding objects are thus produced *through the angels.* In

fact, in that case, it is the affections and perceptions which the angels thus receive moment by moment from the Lord, which are the immediate causes of the corresponding objects. In the case of the natural world, however, in the beginning, since there were then neither angelic nor human minds, *the same* "affections of the Divine Love and perceptions of the Divine Wisdom" produced, or created, the objects of sense, but without the intermediation of finite minds. In the spiritual world, therefore, the drama of creation is perpetually going on. Swedenborg tells us, in another place, that such objects as he mentioned in the passage just quoted, "exist around the angel, and around angelic societies, as *produced, or created, from them:* they remain around them, and do not pass away. That they are as things produced, or created, from them, is evident from this, that when an angel goes away, or when a society passes to another place, the same things no longer appear. And when other angels come in their place, the aspect of all the things around them is changed; the paradises with their trees and fruits are changed; the flower-gardens with their blooms and seeds are changed, also the fields with their herbs and grasses; and the species of the animals and birds are also changed. Such things exist as they do, and change in this manner, because *they all come forth according to the affections and derivative thoughts of the angels:* for THEY ARE CORRESPONDENCES; and because things that correspond make one with that to which they correspond, therefore they are an image representative of it" (*D. L. W.*, 322). Such things, however, "do not come forth around an angel-man *from* the angel; but *through* the angel, from the Lord. They come forth from the influx of the Lord's Divine Love and Divine Wisdom into the angel who is receptive [of them]; and the creation as of a universe is produced before his eyes" (*ib.* 326).

And the way in which Swedenborg himself learned the correspondences of the various objects of sense which he from time to time saw in the spiritual world, *and thus of their counterparts in the natural world,* was by ascertaining the subjects which were engaging the thoughts of those angels or spirits around whom he saw them, and thus through whose thoughts and affections, active at the time, they were "produced and as it were created"; and, whatever those thoughts and affections were, those were the correspondences of those objects.

He, also, constantly appeals to this evidence in proof of the correspondences of the various objects of sense mentioned

in the Word. In one place, *e.g.*, he says: "This signification of a horse, as being the understanding, is derived from no other source than from the representatives which exist in the spiritual world. In that world, horses appear frequently, and persons sitting upon horses, and also chariots; and there every one knows that they signify intellectual and doctrinal things. On certain occasions, when some were present who were engaged in thought from their understanding, they appeared as if riding on horses. There is also a place in the spiritual world where many assemble who think and speak from the understanding concerning truths which pertain to doctrine; and when others come thither they see the whole plain covered with chariots and horses" (*White Horse*, 3). And again: "The sole origin of this signification of a horse as being the intellectual faculty, is from representatives in the other life. In the world of spirits, there are frequently seen horses, and this with much variety, and also those who sit on horses; and, as often as they appear, they signify the intellectual faculty. . . . Moreover, in that part of the world of spirits which is the abode of the intelligent and wise, chariots and horses continually appear; by reason, as was said, that by chariots and horses are represented those things which are of wisdom and intelligence. Hence, then, it is evident *whence came the representatives and significatives in the Word;* viz. from the representatives which exist in the other life. It was from the other life that those representatives came to the men of the Most Ancient Church, who were celestial, and were with spirits and angels whilst they lived in the world" (*A. C.*, 2762–3). And so in other cases.

A true exegesis, therefore, of the Word of God, according to its own teaching respecting its own nature, is SPIRITUAL, and consists in the exposition of its spiritual sense. That spiritual sense has been revealed by the Lord Himself, who alone could reveal it, in the Writings of His servant, Emanuel Swedenborg; and the priceless gift of Divine Revelation has been thus completed and crowned by the disclosure of the internal or spiritual sense of the Word—the very soul, of which the inspired books of the Old and New Testaments constitute the "flesh," or body. And the Science of Correspondence is added to the gift, to the end that men may be able to "enter understandingly" into that spiritual sense, and see, as it were with their own eyes, that the spiritual sense authoritatively revealed is indeed the spiritual sense of the Word, in whatever part they approach it, and may thus possess an exegesis which is not only trustworthy and

truly spiritual, but also entirely and satisfyingly rational. "No one can see," it is said in expounding Rev. xix. 11–18, "what these things signify except from the spiritual sense of the Word; *and no one can see the spiritual sense of the Word except from the Science of Correspondences;* for all the words are correspondences, and there is not one word here without a meaning" (*Sacred Scripture*, 9; *True Christian Religion*, 196[1]).

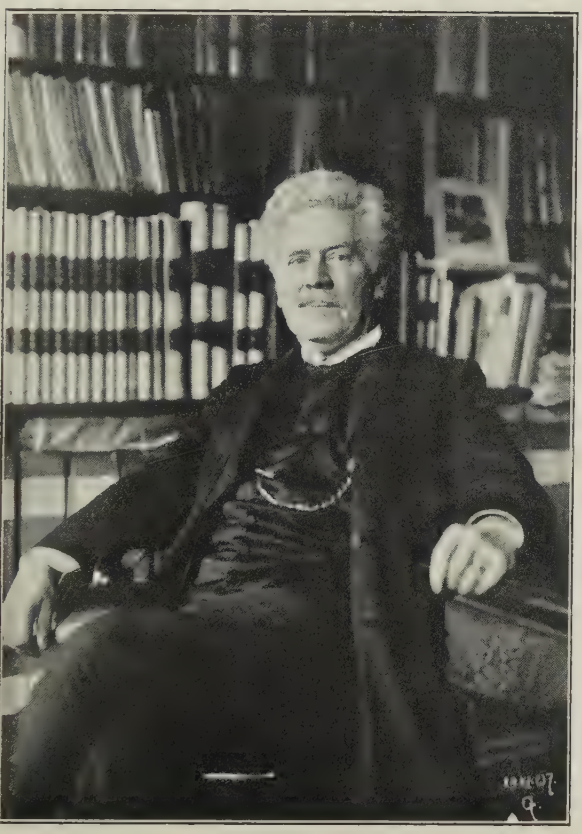
By way of example—which will go farther than any explanation—let us take the Lord's words in reply to the question of the Jews, "How can this man give us His flesh to eat?"—"Jesus said unto them, Verily, verily, I say unto you, Except ye eat the flesh of the Son of Man, and drink His blood, ye have no life in you" (John vi. 53). The spiritual sense of this is: that we cannot have spiritual and eternal life unless we receive, embrace, and incorporate in our lives the Divine Goodness and the Divine Truth of the Lord's Divine Humanity (see *A. C.*, 3813[9], 4735, 7850[2], 10033, 10283; *A. E.*, 146; *Doct. of the Lord*, 27). If this be merely stated, there appears to be so little connection between the words themselves in their literal meaning and their alleged spiritual sense that a person not acquainted with the Science of Correspondences might well be excused for finding himself unable to accept the statement, and taking the position, "I know you believe and say that that is the spiritual sense of those words: but I have no proof, no evidence even, that that is really the case; and if I am to believe it, cause me to see it. I cannot accept anything so momentous on a bare *ipse dixit.*" To any one well-grounded in the principles and details of the Science of Correspondences, however, there is no difficulty. For, from such grounding, he knows already that "flesh" in a good sense —all things have both a "good sense" and an "evil sense"— corresponds to Good as distinguished from Truth; that "blood" corresponds to Truth—which two things, Good and Truth, are the food and drink of the soul; that eating and drinking, which are acts of physical assimilation, correspond to spiritual assimilation, which is nothing else than incorporation in life; and that the "Son of Man" is the Lord in His Divine Humanity. *Knowing* from the Science of Correspondence that the spiritual things and acts mentioned in the spiritual sense are the "correspondences" of the natural and physical things and acts mentioned in the literal sense, he sees for himself that the spiritual sense postulated is, in very truth, *the* spiritual sense of that passage, and that it cannot be otherwise. He comes, also, by means of the spiritual sense, into possession of a spiritual law of vital importance which

he would not otherwise have known: that, namely, since God's coming into this world as a Man, and making His Humanity Divine, and taking it with Him out of the world to His throne above all the heavens, where He dwells in it for ever—since that transcendent event, all hope of eternal life for man absolutely depends upon his looking to the Lord in His DIVINE HUMANITY, "the Son of Man," for all Good and Truth—His "flesh" and "blood"—and assimilating them to himself, by "eating" and "drinking" them, by incorporating them in his life in living habitually according to them. Thus, the Science of Correspondence enables him to enter understandingly into the inner secrets of the Holy Word, and in doing so to find the preciousness of the Word of God enhanced and exalted for him a thousandfold.

Thus, also, while the Revelation of the Spiritual Sense of the Holy Word enhances and exalts the preciousness of the Word of God a thousandfold, the Science of Correspondence enables us to enter understandingly into its holy "arcana," as Swedenborg's word is, and to receive and embrace it with a faith which is at once spiritual and eminently rational. "Nunc licet"—"now it is permitted to enter understandingly into the arcana of faith"; and, as regards the precious Word of God, "Swedenborg's Science of Correspondence" is the means by which we may thus "understandingly" enter in.

The PRESIDENT: I have a communication to make in the name of the Committee of the Congress. They propose to send the following message to Prof. Gustaf Retzius: "The International Swedenborg Congress now in session in London sends hearty greetings to Prof. Gustaf Retzius for his generous and constant efforts on behalf of the publication of Swedenborg's scientific works." Dr. Retzius is the son of that great man who many years ago called attention to the value of Swedenborg's scientific works, but the present Dr. Retzius has shown his admiration in a practical manner also. When he heard of Dr. Neuburger's high appreciation of the researches made by Dr. Tafel, he set on foot inquiries which resulted in the discovery of many valuable MSS. still unpublished. At his own expense he has published two volumes of important scientific works of Swedenborg's in the original languages. You will understand, therefore, the desire of the Congress Committee to congratulate and thank him. In their name I move that this message be sent.

The Congress adopted the President's proposal.



PROF. GUSTAF RETZIUS, [p. 258
Chairman of the Swedenborg Committee appointed by the Royal Swedish Academy of Sciences, Stockholm

INDICATIONS CONFIRMATORY OF A PRIMAL RELIGION

By Rev. W. T. Stonestreet, F.R.S.L., F.S.A. (Scot.)

Many theories which were implicitly believed in the past have been shaken to the ground by the growth of scientific investigation. Among these, the most important to religious men are the old beliefs in the existence of a personal God as the Primal Cause of the universe; the immediate creation of man by God as a rational and spiritual being, and altogether distinct from all other creatures; the dependence of religion upon a supernatural revelation; and the growth of the human mind in morals and civilized life from influences which originate in another sphere than the material.

The development of the theory of evolution, and its application to all realms of knowledge, has been the main factor in this result. It has quite overthrown in astronomical science the need for a Creator, setting up infinite matter and mechanical law as the sufficient cause of all that the starry heavens produce; it has endeavoured to arrive at the origin of life by postulating certain quasi-mental qualities to matter, which by spontaneous combination and organization make a living God unnecessary, and it has evolved man by successive progressions from the animal, and his whole mental and moral constitution out of purely animal instincts and passions, making revelation alike unnecessary and useless.

A sufficient answer to these iconoclastic movements can undoubtedly be furnished by the defenders of revealed religion as it exists under its various forms and manners; but everywhere those who believe in a Primal Revelation, a period of pristine innocence and a fatal Fall are hard put to it to make secure their position against such scientific investigation and evolutionary theories. The main facts relied upon to overthrow belief in a primal revelation and consequent religion are: I. The evidences of a prehistoric and universal Stone Age; II. The evidences of man's moral as well as physical evolution; and III. The proofs that religion undergoes progressive development, or a process akin to evolution. The briefest account of these evidences will be sufficient. The oldest civilizations with which we are acquainted only carry us back some 10,000 or 12,000 years. Egypt beyond the Pyramid era may run back farther, but its

records are lost, and all that we can infer from its prehistoric remains is perhaps a long and unknown period of slow ascent taking us back some 15,000 or 20,000 years B.C. The discoveries in Babylonia and Chaldea do not carry us any farther, and although they point to a vast antiquity of culture, we are still in a *cul-de-sac*, as far as the actual origins are concerned. Everywhere, however, we are confronted with evidences of a low state of human existence in those prehistoric times to which are given the name "the Stone Age." The neolithic men may certainly have been grouped into communities, and have risen to the use of better materials than the flint weapons found so largely in the caves and river deposits; but the paleolithic men were undoubtedly of a primitively barbaric type, and widely spread over a large area of the earth's surface. If we can trust the opinion of those who have made the remains of these prehistoric men a life-study, they existed at a period geologically different from our own, but were intelligent members of the human race, giving signs both of actual advance and of the capacity for improvement. From such a mass of evidence it is generally concluded that man has emerged by slow degrees from abject savagery, and that a fall is consequently unthinkable.

The well-known theory of man's evolution from some lower animal, which in its turn is an evolution of a yet lower creature, is familiar enough to all students of biology; and the conclusion is at once reached that the human mind, as well as the human body, has reached its present form and powers by a similar evolutionary process to that which is supposed to have produced the *equus*, or modern horse, from a creature not unlike a small fox, having four toes with slight differences in the fore and hind feet, which was found in the Eocene strata of America; the human mind having its creeping and quadruped stage before it attains its stature of manhood. The facts which indicate the general development of man, bodily and physically, from a lower form, and the collateral development of animals from a low grade to a higher, are incontrovertible, but the evolutionary explanation of the facts is open to criticism and refutation. But as it stands, the old idea that man was created perfect, and has since fallen, meets with the severest handling from scientific thinkers.

Because the history of religion everywhere presents a process of development, and as the evolution of the higher faculties out of the lower and more material has become the

basic principle in modern philosophic thought, Dr. Wallace's conclusion is generally accepted, viz. "that man's entire nature, and all his faculties, whether moral, intellectual, or spiritual, have been derived from their rudiments in the lower animals, in the same manner and by the action of the same general laws as his physical structure has been derived" (*Darwinism*, p. 469). Religion, as one of the elements of man's nature, is traced back through prehistoric myth to Fetishism and Totemism, the first products of mental activity among barbarous tribes, with the consequence that all religion is referred not to Divine revelation, but to the unconscious as well as the conscious self-development of the primitive mind of man.

Along each line of investigation we come to the same conclusion: man has not fallen from a pristine religion, God-given and God-inspired, but has slowly but surely risen, by his own inherent powers, out of primitive barbarism to the varying degrees of mental and moral culture which constitute civilization.

This conclusion means that all religion rests not on Divine revelation, but on the continuous development of mankind *per se;* it means that there has been, and is, no Divine guidance, but simply a Godless progress, by the inherent forces of human nature itself. Many various theories have been launched to explain this origin of religion in the savage mind. Benjamin Kidd, in *Social Evolution* (p. 106), truly says that we are met by a curious and conflicting mass of evidence respecting the religious beliefs of primitive man. "In no stage of his development, in no society, and in no condition of society, is man found without religion of some sort, say one side. Whole societies of men, and entire nations, have existed without anything which can be described as a religion, say the other."

One of the most popular theories at one time was that religion originated in Fetishism, that "superstitious veneration for rubbish," as Prof. Max Müller termed it. For a considerable time Animism, the theory which deduces religion from the mistaken views of savages about ghosts, has held the field; whilst Max Müller's elaborate theory that "the first impulse to religion proceeded from an incipient perception of the infinite pressing upon us through the great phenomena of nature" also has had its day. Totemism, which is Fetishism applied to animals, which become the supernatural patrons of tribes and families; and the personification of the powers of nature, resulting in the mythical lore of nations,

have each played their part as theories of the origin of religion; but whatever be the line taken, it ends always in the same conclusion: religion is entirely of man's own invention, and forms part of his mental evolution, beginning with his childhood and his childish ideas, and to be relegated to the rubbish heap of all past superstition when he reaches the maturity of reason.

But in spite of the strong case made out by such materialistic speculation for the savage origin of religion, there are many cogent reasons for believing it to be unproved. A glance at the nature of the savage as he has been made visible to us, will furnish us with these reasons. The savage man tends everywhere and always to become extinct; and the same fact applies to him mentally; he is everywhere and always sterile in progressive ideas. As Dr. Garth Wilkinson said of him, "There is less and less room for the savage in the spaces of the human world;" "he is not a promising young man," "and we must give him up as the babe of grace and the first poet," and declare that just as he dies out physically he is not a progressing but a retrogressing being, ever tending downward the sign and example of the decay of civilization, of the dying out of religion, and the annihilation of morals and manners in that real animalism which Swedenborg appropriately terms the human *proprium*. Of all the facts which the study of savage man brings out, none is more pregnant than this: the savage is thriftless—thriftless not only as far as he is personally concerned, but thriftless of what his forefathers have done and gathered together for him; so that instead of growing more civilized by hereditarily transmitted brain structures, he approximates more and more to the instinctive animals, growing only in the vigour of the senses and not of the mental powers.

Of all the traditions which savage races retain, none are more significant than those which are universally present, alike among the dwindling savage races of to-day, and those which are supposed by science to have originated the myths of antiquity; the traditions of the fabulous antiquity of their beginnings, and the divinity of their origin. They are all descended from gods or demi-gods; all their ancestors were heroes; they all once had a Golden Age, and they have all fallen from their high estate. These facts you find as much among the dying races of the Antipodes as you do in the Scandinavian mythology of our own ancestors; as frequently among the lowest races of Africa as among the classical peoples of Greece and Italy. And everywhere, in profane as

well as sacred history, a Fall from a pristine religion and life is the unvarying testimony. Even the strongest advocates of evolutionary progress confess to not a few great declines, in which empires, civilizations, and religions have fallen to pieces. The ruin of humanity is writ large on the rubbish heaps which are the favourite hunting-grounds of the archæologist. A testimony to the imperfect character of this evolution, and its frequent lapses, is given by Prof. Huxley in his *Agnosticism:* "I know of no study," says he, "which is so unutterably saddening as that of the evolution of humanity, as it is set forth in the annals of history. Out of the darkness of prehistoric ages, man emerges with the marks of his lowly origin upon him. He is a brute, only more intelligent than other brutes. . . . He attains a certain degree of comfort, and develops a more or less workable theory of life in such favourable situations as the plains of Mesopotamia or of Egypt, and then for thousands and thousands of years struggles with varying fortunes, attended by infinite wickedness, bloodshed, and misery, to maintain himself at this point against the greed and the ambition of his fellow-men. He makes a point of killing, and otherwise persecuting, all those who first try to get him to move on, and when he has moved a step farther, foolishly confers *post-mortem* deification on his victims. He exactly repeats the process with all who want to move a step yet farther."

Mythology enshrines the traditions of the nations, and again everywhere postulates a grand and heroic descent for man, not an evolutionary ascent, and always looks back to a happier and richer past, of which the present is but a degenerate descent. In mythology it is always necessary to guard against confusing two elements which are almost always present: viz. the remains of a lost religion and the new creations of imagination, fancy, and the superstitions of the times. The idolatries of the great nations of antiquity show signs of being vast degradations of a primeval and simple religion which, instead of leading men upward, carried them farther and farther away from the purity which, were evolutionary theories true, would have been their climax and goal; and all these idolatries and mythologies were embellished by the fancy and superstitions of the people who produced them and the age in which they appeared. At the root, however, of all mythologies, and even the idolatries built upon them, the belief in a past Golden Age is practically universal; an age in which the gods walked with men, or, as our Sacred Scriptures put it "man walked

with God"; when there was open communication with the Unseen, and men themselves were demi-gods and heroes. The basis of these much-misunderstood stories of the past is what Swedenborg terms the primitive revelation which, he asserts, was given to mankind long prior to any period which falls within the reach of history or even archæological research. Mankind, in that far-off prehistoric period, constituted a race which in Scripture is called Adam, and is defined in Swedenborg's works as *celestial men;* that is, men so mentally constituted that they could receive the impress of Divine truth directly from God upon a sensitive and responsive nature. Revelation, in these primeval times, was an inward perception of the reality and nearness of God, of His oneness and likeness to themselves; and a perception of the meaning of things in this world of forms as corresponding to spiritual things. But Swedenborg recognizes that this Adamic race was not the first in order of time, there being a pre-Adamite race, or *homo protoplastus*, from whom the celestial man and Church were formed. There is much in Swedenborg's account of this upbuilding of the pre-Adamite into the Adam of the Divine narrative which reads like evolution, but it is never self-evolution, it is rather the unfolding of the human capacities under the influence of incessant personal relations, by dreams and visions, by the presence of angelic instructors, and the conscious realization of the ever-present world of eternity. The advance was not so much a struggle as evolution is pictured to be, but the perpetual progress of man's germinal spiritual state to its culmination in that celestialism which is the technical term for man's first and earliest religion, a religion comparable only to the trust and intuition of a little child.

The traditional lore of the nations, which is supposed to have originated in the first gropings of savage minds, is, according to Swedenborg, the results and relics of the decline and dying out of Revelation; the mass of remains which the pristine religion left behind overlaid and interpenetrated by the superstitions and ignorant modifications of men tending by degrees actually down to the savagery from which it is imagined they spring. Our great English philosopher, Bacon, long ago, in his *Wisdom of the Ancients*, maintained that the fables of antiquity concealed the deepest wisdom of the ancient world, and that their manner of interpretation must be by way of allegory. "As hieroglyphics were in use before writing, so were parables in use before arguments," says he; and he further argues that they must contain a concealed and

secret meaning to give them the value which was attached to them among the intelligent people of old times. Swedenborg goes much farther than Bacon; first, by giving us the spiritual or mental history of the human race, which is, briefly, the rise of the first created beings, the pre-Adamites, out of a state of animality by slow but normal degrees and stages to a pristine and innocent manhood, with a perception or intuition in mental things which is unsurpassed and unsurpassable. When this pristine people began to degenerate, and their primal religion to decline, their profound wisdom was gathered up and preserved under correspondential forms, which in the successive declensions which followed were debased, confused, and finally transformed by poetry and idolatry into their last remains as Mythology. If the savages, as we know them, retain any of these traditions, they are not originated by them, nor do they contain the poetic guesses, but the *last* and almost dead traces of their greater past. If these traditions vary, although containing a common likeness, it is because each race and country transmitted them through its own peculiar modes of thought, and shaped them by its own genius. To give a thorough exposition of these traditions, seen as correspondences, it would be necessary to quote the greater part of Swedenborg's work, *The White Horse;* that remarkable summary of the parabolic nature of the old Greek mythology.

What he says in the *True Christian Religion*, no. 693, sums up his conclusions: "By the winged horse, Pegasus, the ancients understood the understanding of truth, by which wisdom is attained. By the hoofs of his feet, the experiences through which natural intelligence comes; and by the Nine Virgins, knowledges and facts of every kind. These things are now called Fables, but they were correspondences, from which the earliest peoples spoke."

Recognizing that such a pristine people, or religion, once existed, the climax of it, coming down to us as the Golden Age of profane literature, and the Garden of Eden in the sacred writings, it is necessary to remember that this age was not necessarily of a high or elaborate outward civilization. On the other hand, it was, by its very nature, something as unlike our complicated civilized societary life as the simple life of the patriarchal times was; and as the beauty and simplicity of the child's mind is unlike that of the adult man, for its nature or genius was to open its faculties and powers, not as civilization does with ours, towards the visible and external world, but towards God and the Eternal. All

its culture was therefore of an internal or spiritual character, alien altogether to that which is based upon sensuous observation and physical development. If this era has left no external record, it is because it had none to leave. When celestialism vanished it left no traces behind. That it did degenerate and vanish is the constant teaching of Swedenborg; and that its degradation and disappearance were more complete than any other is set forth in his exposition of the Deluge, which he asserts was the final inundation of evils and falsities, which the fall from a primal religion involved to a pristine race, and which he vividly pictures for us in his masterly psychological analysis of the radical difference which was made between the primeval, or antediluvian man, and the man who succeeded him, which Holy Scripture calls Noah. According to our authority, the first men were differently constituted, in fact they were fundamentally different from the men who succeeded them. This difference is defined by Swedenborg as a difference in the relationship that prevailed between the intellect and the will in the first men from the relationship which prevailed after, and still prevails. The will or the love element in the first men predominated, the intellect being subordinate to it, and not as it has been since, entirely differentiated from it. The celestialism which was attained by these primal men was "a state of love to God and man inspired in its centre and in all its proceeding affections, and with an intellect conjoined with it *and inseparable from it.*" The intellect went out from the love as the eye goes out from the brain. When degradation set in, the evil became more deeply rooted than in any other human creature, because it not only took possession of the central principle—the will or love—but it subjected and subjugated the intellect, making it so completely its subordinate that any other belief than belief in itself, or any other intelligence than self-intelligence, were impossible. Consequently, the race became self-suffocated in self-love and self-conceit, and, judging from Swedenborg's few references to their external destiny, ultimately died out as a racial type. Whether or not degenerate remnants of the race continued into later and historical times is open to question; if they did, they were probably the aboriginal stock which the Israelites are said to have been commanded to exterminate, the Canaanite who was still in the land. In any case an entirely different racial type arose, called by Swedenborg the *spiritual man*, a man who retained the corrupted will of the fallen celestial man, but whose intellect was separated from it, so that he could see and understand

the truth when presented to him, and so build up a new will, of an intellectual rather than an emotional order. A neutral faculty, in fact, was created, in which the truth impressed and implanted by Divine means became a *conscience*, a state of things which has remained until the present day. It was this new intellectual man whose mental energy first developed the Spiritual Dispensation or Church, and when that, too, suffered degradation and decay, produced the vast idolatries, mythologies, and civilizations, whose remains are strewn over the whole of the East. It is not my function to narrate the succeeding chapters of human descent, culminating in the gross naturalism of the decadent Jews; a descent which could only be arrested by a new and Divine force in human life, the incarnation of the Divine Man as the Saviour and Redeemer.

It has been generally taught that the life-history of the individual recapitulates the life-history of the race. If this be so, the life of the child should give us a clue to the course of human history generally; and the child's mind developed from a purely animal condition repeat the first development of mankind from a similarly low estate. The child's first state of mental innocence, simplicity, and dependence thus repeats the race's pristine religion, the celestialism of the primal men; and the growth in the child of self-consciousness and the discretion recapitulates the first Fall, when self-interest and self-belief took the place of conscious dependence upon God and entire submission to His will. A re-creation in the individual parallels a re-creation in the race; and all through the processes run coincidentally.

The Story of the Fall and the Story of the Deluge are brought down to us from widely different ancient sources, and there are variants of them throughout all mythology and folklore. Scandinavian folklore, as well as Assyrian tablets, testify to a Golden Age long lost to mankind. The Flood plays as great a part in Babylonian lore as it does in Greek mythology; and everywhere in tradition, song, and story we meet with illustrations of the widespread belief in the past glory of the human race and its fall into lower and baser states. Probably the Greek and Roman mythologies give us the most distorted and changed remnants of the universal traditions of the Primal Religion and the decline of the First Race into moral and spiritual evil.

If we accept Swedenborg's theory that such a primal race existed and such a pristine religion prevailed, we are faced with the problem which Archæology presents—the existence

of a widespread barbaric race in prehistoric times, a race scarcely above the level of animals—the Paleolithic and Neolithic men. The point for the thinker who is satisfied that there is more in Swedenborg's view than mere theory, is to ascertain whether these prehistoric men were the progenitors of the primal race, and the originators of all civilization, as science would have us believe, or whether they were the last and scattered remnants of a primal people, the dregs of spiritual civilization driven forth from some centre of religious culture and sinking back into savagery and animality. There is a third aspect. Was the primal religion universal, did it embrace all or only some of the human family, and when it decayed did it completely disappear, leaving only its many contemporaries, still slowly evolving from savagery or slowly falling back into such barbarism? Personally, I am inclined towards the first view, viz. that the so-called prehistoric men are the last dregs of a bygone religious culture, which is lost in the most remote antiquity, and was the Celestial Age of Swedenborg; and, further, that this culture had some favoured centre from which its light and influence radiated; that although that influence was universal it was not a celestialism of equal extent throughout, but at its circumference was what Christianity is at its circumference, only a very modified and remote form of religious spirit and life.

To recapitulate, we may say—

First, That Swedenborg asserts that there was a Primal Religion, based upon a specific revelation.

Secondly, That universal tradition, in the form of myth, idolatry, and religious cults, asserts the same fact.

Thirdly, That the apparent antagonism of prehistoric remains is not necessarily condemnatory of this theory.

Fourthly, That the recapitulation theory strengthens our case, as it would necessarily carry the race through the same stages as we find in the individual, and so reiterate the widespread conviction that mankind, as well as man, has had a period of infantile innocence and simplicity—a truly Golden Age.

THURSDAY EVENING LECTURE.

In the Connaught Rooms, Great Queen Street.

The Hon. Job Barnard, of the Supreme Court of the District of Columbia, Washington, D.C., occupied the chair,

and said: It is with much pleasure that I welcome this splendid audience here to-night to listen to a popular lecture upon the subject, "Swedenborg, the Philosopher and Theologian." It is in honour of him as one of the world's great men, that this first International Congress is being held, and we have already listened to many interesting facts descriptive of his varied attainments, of his wonderful industry, his love of doing something of use to mankind, and his clear and logical powers of reasoning. It is thought by the Committee who have arranged the programme, that a popular lecture will place him before this audience in such a way that all may see and understand something of his exalted character and extensive work, even if they have never heard of him before.

I congratulate the Committee upon the happy choice they have made of a lecturer, for Mr. Rodgers has not only studied the life and writings of Swedenborg for many years, but he has taught his doctrines to hundreds, and has, I believe, conscientiously lived in accordance with what he has preached.

For nearly half a century he was the beloved pastor of the New Church Society in Birmingham, and he has worthily held the highest offices in the organizations of the New Church in this country, and has been again selected by the Conference to be its President at its next session. He will speak to us as one with authority, for he is thoroughly acquainted with his subject.

I take great pleasure in introducing the Rev. R. R. Rodgers, of Birmingham, who will now address us.

SWEDENBORG, THE PHILOSOPHER AND THEOLOGIAN

By the Rev. R. R. Rodgers, of Birmingham.

It is my privilege to speak to you to-night, for a short time, upon Swedenborg as a Philosopher and Theologian. It is a subject of supreme interest and of equal moment. The history of the world is the history of its greatest men. If the voice of the people is the voice of God, it is always because they are wisely and rightly led. Thus it is with the subject of our study to-night. Swedenborg came as a pioneer and leader both in philosophy and theology.

For ages untold the world, through its most famous men, had been revising its creeds and theology, and correcting its scientific and philosophic errors. In both these spheres of thought, many amongst the wisest of men acknowledge that Swedenborg stands supreme. He was master of all the older sciences, corrected many of their errors, and led the way into other sciences quite new to the student. He exhausted all the former worlds of knowledge, discovered others, and invited men to profit by his labours. By the open avowal of many leaders of modern thought, and best able to judge—such as John Greenleaf Whittier, Henry Ward Beecher, Phillips Brooks, Julian Hawthorne, Emerson, Elizabeth Barrett Browning, Coleridge, Kingsley, Carlyle, Hiram Powers, Flaxman, and Coventry Patmore—it is hardly possible to "exaggerate Swedenborg's mental power, or to place him too high among the selectest company of men of intellect." Such is the man to whose labours I have the privilege to invite your attention.

Whether we refer to Swedenborg as a Philosopher or Theologian, there are three ways in which he has been, and still is studied. The first, is to read his works prejudiced against him; the second, is to read them prejudiced in favour of him; and the third, is to read them with a perfectly open mind. The story is told, that a Frenchman, an Englishman and a German, were once commissioned to write a description of a camel. The Frenchman went to the Zoological gardens, saw the animal for five minutes, and immediately produced his article. The German retired to his study, and there constructed him out of his own consciousness. The Englishman packed up his tea-caddy, pitched his tent in the East, studied the camel in his native country, and dealt with the facts which he had verified by quiet investigation. There are some people who study Swedenborg as the Frenchman studied the camel, others who imitate the German, and others who follow the example of the Englishman. In what I have to say to-night, I hope to speak as the Englishman spoke in his excursion into the field of natural history.

Swedenborg was the second son of the Bishop of Skara. He was born at Stockholm, January 29, 1688. He died in London, at 26, Great Bath Street, off Farringdon Street, 1772. At the age of four he was taken to Upsala, where his father had a house in the great cathedral square. Here he received the whole of his schooling. First he had a private tutor, then he entered the University, pursued his studies with great application, and in 1709, at the age of twenty-one

years, took his degree and went home to Brunsbo, where his father then lived.

His first essay in literary work was an academical thesis on taking his degree. This thesis was a selection of moral and religious citations from Latin and Greek authors, chiefly from Seneca and the Bible, and used by him as texts for his own comments upon the virtues and graces of religion.

Next year (1711), at the age of twenty-two, he started for London, which he reached after four escapes from imminent danger. In London and Oxford he spent the greater part of two years. In London he visited St. Paul's, Westminster Abbey, museums, and whatever else he discovered worth seeing. He also sought the acquaintance of eminent men. In April 1711, he writes, "I visit daily the best mathematicians in town. I have been with Flamsteed, who is considered the best astronomer in England, and who is constantly taking observations." He visited Oxford, where he met Edmund Halley, a man second only to Newton, who discovered in 1682 the comet which has been troubling or blessing mankind ever since, and inspiring the unscientific with a sense of awful peril. While here he drained his purse in buying models of machinery, and copies of works on science. He afterwards visited Holland, France and Germany, in each country making the acquaintance of men of science; and returned home in 1715, completing an educational tour of five years.

During these travels he not only studied mathematics and astronomy, and read Dryden, Spenser, Milton, Ben Jonson and Shakespeare, but he invented what seems to be a submarine, "A ship which, with its men, is intended to go under the surface of the sea, whenever it chooses, and do great damage to the fleet of the enemy." He also anticipated the Maxim gun, and invented a magazine air gun to discharge sixty or seventy shots in succession without re-loading. And above all, in 1714, he invented a flying machine, gave a picture of it drawn to scale, and stated its weight, its possibilities and drawbacks, and thus anticipated the modern aeroplane by nearly two centuries.

To relieve the tension of his severer studies, he wrote a volume of Fables. In speaking of them himself, Swedenborg says, "They are a kind of Fables like those of Ovid." In 1716 he wrote a volume of *Miscellaneous Poems.* He also turned journalist and edited a scientific periodical called *Dædalus Hyperboreus*—a journal devoted to essays and articles on Mathematics and Philosophy. It enjoyed but a

very short life, and, for want of funds, came to an end with the sixth number.

Swedenborg was now thirty years of age, and though he had travelled, seen the world, enjoyed many privileges, and commanded many connections amongst men of influence, yet it must not be supposed that during all these years of study and preparation, he had no cares, troubles, or disappointments. On the contrary, as life unfolds with most men, he had his full complement. While at Oxford in 1711, he complains that he lived for sixteen months on £50, and that he is kept back in his studies for want of money. He also felt much discouragement that his early inventions, discoveries and labours seemed to be thrown away, and to bring him nothing but empty honours. Of honours he had more than enough.

At twenty-seven years of age (in 1715) he was presented to Charles XII, King of Sweden: being a clear thinker and a good mathematician himself, he at once perceived his abilities, and gave him the choice of three places. That of Assessor Extraordinary in the College of Mines was the one he selected, and held for the remainder of his public life. This post gave him the inspection of the mines and metallic works, embracing the whole mineral wealth of Sweden. But even this was an honour without material benefit, and brought him no salary. In 1719 he was so troubled with his financial outlook that he proposed to emigrate and seek his fortune abroad as an engineer, because he despaired of earning a living in Sweden. Yet in this same year, 1719, he and his family were ennobled by Queen Eleonora. This honour gave him a seat, as the eldest son, in the House of Nobles, and through this elevation in rank his name was changed from Swedberg to Swedenborg. He also shared the friendship of many of the most distinguished scientists of the time. His own eminence, indeed, in the scientific world was now fully established.

But with all these honours, it was not till 1724 that he met with even the smallest material benefit. Up to this time he had laboured, studied, written, invented, and all for nothing. Reward, however, came at last, and at the age of thirty-six he was appointed an Ordinary Assessor, at the salary of £100 a year—only two-thirds the usual amount. Six years later, in his forty-second year, he succeeded to the full salary of £150 per annum, and on this most modest income he toiled to the end, accomplished results beyond any other man, and rose to be characterized by his compeers in Science and

Philosophy as "the Aristotle of the North." In acknowledgment of his eminence as a scientist in 1729, at the age of forty-one, he was elected a member of the Academy of Sciences in Stockholm.

Year by year he turned out books as fast as he could write them. Works on *Algebra*, *Higher Mathematics*, *The Motion and Station of the Earth and Planets*, *On Tides and Changes in the Position of the Ocean*, and *On fixing the Value of Coins*, were all written and published during 1718 and 1719.[1] With a brain capable of embracing every kind of knowledge, with a phenomenal vigour and activity of thought, and with an industry bewildering in its magnitude, his scientific productions appear with almost incredible rapidity. In 1720 he left a manuscript of 560 pages on *The First Principles of Natural Things*. Next year he published his first *Prodromus*, an essay on the way to explain Experimental Philosophy by Geometry and Chemistry. This same year he also published *Discourses relating to Iron and Fire*, *A New Method of finding Longitude*, and *The Construction of Docks and Dykes*. The following year (1722) he went to Leipsic, where he published *Miscellaneous Observations on Natural Things*. Upon this book the celebrated Dumas ascribed to Swedenborg the origin of the modern science of Crystallography, usually ascribed to Wollaston.

Though he wrote on the *Power of the Deep Waters of the Deluge*, on *The Magnet and its Qualities*, and various other works of Science, and though he attended to all his duties as Assessor of Mines with the utmost care, yet quietly and unnoticed for eleven long years, and with the patience of a dozen Jobs, he is accumulating materials for his great and crowning work on Physical Science, called the *Opera Philosophica*. This work was published in three handsome volumes and illustrated by 155 copper plates, at the expense of his friend, that patron of learning, the Duke of Brunswick. The first volume of this work is called the *Principia*. The object of the *Principia* is "to trace out a true system of the world." To secure the success of his purpose, he divides it into three parts. The first part treats of "the origin and laws of motion"; the second, "of the phenomena of magnetism"; and in the third, the author "seeks to explain the origin of the universe, including the origination of the planetary bodies from the sun."

This work is entirely free from the scepticism of the age;

[1] As a Philosopher he wrote seventy-nine separate works on different branches of science.

it is graced with a full acknowledgment of God and His Providence, and it unfolds its discoveries in an atmosphere of reverence and piety, and yet in 1739 it was prohibited by the Papal authority. Why this was done is not perfectly clear; but it is believed that it was because it opposed the old error, that God created all things out of nothing; and also, because Swedenborg's account of creation contravened the still further error, that the world was created in six days as stated by Moses in the first chapter of Genesis. Certain it is that it was prohibited; and certain it is that it is far better to be persecuted for teaching the truth, than to share imperial power and thereby enjoy the short-lived triumphs of error.

The second volume of the *Opera Philosophica* is an exhaustive treatise on iron, and the various methods of converting iron into steel. The third volume treats of the method of separating copper from silver, and of converting it into brass and other metals. In speaking of this work, in his *Elements of the Art of Assaying*, Cramer says that Swedenborg has "given the best accounts, not only of the methods and newest improvements in metallic works in all places beyond seas, but also of those in England and the American colonies."

The same year that the *Principia* appeared—1734—and following the same method, he published a supplemental work *On the Infinite, and the final Cause of Creation*, and the *Intercourse between the Soul and the Body*.

This same year (1734) the Imperial Academy of Sciences of St. Petersburg appointed him a corresponding member. In 1735 he lost the good Bishop, his father, from whom he inherited a substantial legacy. "Like a star, never hasting, but never resting, he fulfilled his God-given best"; he not only discharges his numerous duties as Assessor, but he contemplates the pursuit of a new study—broader, deeper and higher than anything attempted in previous years. With his mind matured by knowledge and experience, he now leaves pure physics, and begins the study of the higher science of metaphysics. In the first, or physical epoch of his studies, which ended at the age of forty-five, to discover the origin of nature was his object. In the second, or metaphysical epoch of his studies, to reach the soul, and discover its nature and character was his all-consuming desire.

At the age of forty-eight (1736) he asked leave of absence for a few years in order to travel, and write and publish a new

work. But what the work was we have to guess. With a singular and somewhat unusual regard for fairness, he voluntarily gave up half his salary to his substitute, during his term of absence. In his travels he passed through Denmark, Hanover, Holland and Belgium. While at Rotterdam he wrote his famous eulogium upon the Republican form of government as compared with, not a constitutional, but an absolute monarchy. On September 4 we find him in Paris. From France he went to Italy, and spent a year at Venice and Rome (1738–9). In Rome, it is believed by some that he published *Two Dissertations on the Nervous Fibre and the Nervous Fluid*—1740. On March 17, 1739, he is at Genoa, and here, unfortunately, his *Journal of Travel* comes to an end. In all probability, in 1740 he returned to Stockholm.

During these four years of travel he turned his attention to anatomy, physiology, and psychology, and as the result of his studies he left (in 1740) a manuscript of 636 pages folio on the *Anatomy of all the Parts of the Brain.* Two out of the three volumes of this work have been translated into English by Dr. Tafel. In this treatise he anticipates many of the modern discoveries in relation to the functions of the brain, and in speaking of it Professor Retzius, of Upsala, says, "He towers in the history of the brain as a unique, wonderful, phenomenal spirit, as an ideal seeker for truth, who advances step by step to higher problems."

This same year (1740) he also published *The Economy of the Animal Kingdom.* By the Animal Kingdom, Swedenborg does not mean the lower animals, or brute beasts as distinguished from man; but the human body only. This treatise was published in two parts. The first part, 1740, deals with the blood, arteries, veins, and heart; with an introduction to Rational Psychology. The second part, 1741, is on the "Motion of the brain, of the cortical substance, and of the Human Soul." In this work he dissects the body in search of the soul, and though he seems at times almost to have grasped the coveted prize, yet the book closes, and, instead of the soul, "he only came to the inner parts of the human body."

This failure to discover the soul only stimulated him to renewed labour and study, and in four years afterwards he published *The Animal Kingdom*, in three parts, and still in search of the same object. The first treats of the Viscera, or Organs of the Lower Region. The second, of the Viscera of the Superior Region. The third, of the Skin, the Touch, the Taste, and of Organic Forms in General. (Partly

printed at the Hague, and partly in London, 1744–5.) While the soul as the tenant of the body still eluded him, yet it has been said by one of his most competent critics, that "there is no inquirer into the human body, either for the purposes of medical or general intelligence, above all, there is no philosophical anatomist, who has done justice to himself, unless he has humbly read and studied *The Economy* and *The Animal Kingdom* of Swedenborg."

As a Philosopher, the last book that Swedenborg wrote is called *The Worship and Love of God*—a book as full of poetry as anything from Thomson's *Seasons* to Shakespeare's *Sonnets*, and while it is scientific throughout, yet it is as profoundly religious as the *Imitation of Christ*, by Thomas à Kempis. It is a brilliant philosophic allegory, giving an account of the creation of the world, of Paradise, of the first-born man, of his marriage, his state of integrity, and the image of God. It gathers up and concentrates in one volume the vast results of all his previous studies. It is a religious book, written by a saintly-minded student of nature, and designed to enforce the great truth, as he himself says, that God created everything as the Fountain of all goodness and uses, and that in man God sees himself reflected, by the active principle of mutual love.[1] In a review of this book a Swedish writer concludes, "It is not only written in brilliant and harmonious latinity, but with so much poetic life and inspiration, that if divided amongst a dozen poets, it would be sufficient to fix every one of them in the heaven of poesy as stars of the first magnitude."

The universal law illustrated by great writers throughout the world is this, that age impairs the imagination, lessens the power of varied expression, checks poetic fancy, dulls the intellect and makes composition dry and prosy. Swedenborg is a singular, rare, and an almost unique "literary phenomenon"; and in him, as sober reason matured, as knowledge extended, and the sweep of the intellect increased, *his* facility of expression was amplified, years enriched and developed his creative power, and the "soberness of his maturity" carried his ideal and poetic powers to their unexampled triumph. In this he stands, almost, if not entirely alone in the literary world.

As a Philosopher, Swedenborg's style is clear, forcible and felicitous; it is confident, confiding and free; he is at home everywhere, yet full of aspiration; he has no self-approbation; he is reverent beyond all other men, and his motto was, even

[1] *Worship and Love of God*, 78.

as a Philosopher and man of Science, "The soul of wisdom lies in the knowledge and acknowledgment of God."[1] Glancing over the whole of his philosophical works, the first feature that strikes us is, that his method of procedure is based on the inductive and synthetic method combined. On whatever subject he ventured to write he was as well informed as he could be by the literature both of past ages and his own time. And then came his unheard-of and his unimagined interpretations and deductions, revealing the magnitude of his genius as a Philosopher. In these interpretations he was ages before his time, and, like all his predecessors in the same rank, he was accordingly neglected by the world. But times are changing, and all in his favour.

All round, and by eminent professors of science, Swedenborg's name now stands amongst the great pioneers in original research. By Professor S. P. Thompson, in his monograph on *Air Pumps*, he is acknowledged to be the inventor of the first mercurial air pump: he was the first to give us a true theory of the birth of our earth from the sun. He is in advance of all others on the molecular theory of magnetism. To him we owe the first conception of heat as a mode of motion. Above all, in his Doctrine of Correspondence, Swedenborg broached a subject—first announced in his *Animal Kingdom* and perfected in his Theology—which will make his name famous while language exists; and in this Doctrine or Science of Correspondence, he reached his highest point as a philosopher of nature.

At the age of fifty-five he discontinued his scientific pursuits, and began to study Hebrew as a theologian. His preparation as a theologian had really been life-long, and as a young man, he adopted rules of life of a profoundly religious character, by which to regulate his character and action. These rules are—

1. To read often and meditate well on the Word of God.
2. To submit everything to the will of Divine Providence.
3. To observe in everything a propriety of behaviour, and always to keep the conscience clear.
4. To discharge with fidelity the duties of my office, and to render myself in all things useful to society.

As far as we know, these rules were kept with the utmost care and loyalty.

At the age of fifty-five he retired from business as the Assessor of Mines in Sweden, with a pension equal to half his salary. He also gave up his scientific pursuits, and

[1] *Journal in Paris*, 1736.

devoted six years to linguistic and other studies, as a further and final preparation for his new and important labours. In his new capacity of theologian, Swedenborg was like, and yet in some respects very unlike, all the men who had preceded him. Without any reservation, and in the most calm, deliberate, and dispassionate manner, he claimed to have his spiritual eyes open, like Elisha and some of the men of old. He claimed to have been called by the Lord to write on theology, to be able to speak with angels, and, in fact, to have open intercourse with the spiritual world. Because of this claim, he has been set down by some people as a madman. On this claim, however, it is well to remember, that from end to end of our Bible, intercourse with angels is regarded as a most natural thing in human experience. When God talks with Adam and Eve, with Noah, or Moses, it excites no wonder. When an angel appears to Balaam, when three angels visit Abraham, when two angels wait upon Lot, when an angel appeared to Manoah and Gideon, when an angel appeared to Zacharias, when angels sang to the shepherds in the field by night, when Gabriel appeared to Mary, when an angel visited Peter in prison, spake to Philip, and appeared to John in Patmos, they excite no surprise; and those who see and speak with them are not looked upon as lunatics. Intercourse with the spiritual world is an admitted fact by all Biblical writers, and the opening of the spiritual sight awakes no more astonishment than the opening of the natural eyes to those awaking from sleep in our own day. And if we believe our own Bibles, to say nothing of Socrates, Plato, Origen, Plotinus, Pascal, Fénelon, John Bunyan, and ten thousand others, then there is nothing new, startling, or incredible in this claim made by Swedenborg.

The six years' preparation over, in 1794, at the age of sixty-one, he gave the world the first volume of his principal theological work, which he called the *Arcana Cœlestia*. This work is a spiritual exposition of Genesis and Exodus, and was originally published in eight quarto volumes in Latin. In this treatise we find the germs of everything Swedenborg has written. In addition to the *Arcana*, he wrote an expository work called the *Apocalypse Explained*, in six volumes, and also the *Apocalypse Revealed*, in two volumes. Besides these sixteen volumes explaining the spiritual meaning of the Word of God, he wrote a great number of other works upon special subjects. The chief of these are, *The True Christian Religion, Conjugial Love, Divine Providence, The Four Leading Doctrines, Angelic wisdom concerning the*

Divine Love and the Divine Wisdom, *Earths in the Universe*, and *Heaven and Hell*.

With the exception of *The True Christian Religion*, these works are all of them small when compared with his expository writings. The one entitled *Heaven and Hell*, like all his books on special subjects, is profoundly interesting and most readable, and may be purchased for the small sum of sixpence.[1] As Mr. White says of it, "it is a dish of cream skimmed from off the *Arcana Cœlestia*."

Passing over most of the smaller writings upon special subjects, all of which are replete with suggestive thought, we come to Swedenborg's last work of this class, called *The True Christian Religion*. In this book he gives us an entirely new creed. It is found in number 3, and runs as follows—

1. That God is One, in whom there is a Divine Trinity, and that He is the Lord God and Saviour Jesus Christ.

2. That saving faith is to believe on Him.

3. That evil actions ought not to be done, because they are of the devil and from the devil.

4. That good actions ought to be done, because they are of God and from God.

5. And that man should do them as of himself, but always in the acknowledgment that they are from the Lord operating with him and by him.

On this faith he bases everything he has to say; and, in his estimation, these five articles comprise all the essentials necessary to be believed by man.

Passing on to notice one or two of the particular doctrines he taught, the first, the chief, and the central doctrine in all his works, is the sole and undivided Deity of Jesus Christ. Around, or upon this doctrine, he builds the whole fabric of religion.

On the vexed question of how we are saved, whether it is by faith or by works, he tells us that faith is only another name for truth, and that while our firm belief in truth, as taught in the Word of God, must lead the way, yet, that every man is judged by his works; and, in accordance with this doctrine, it is declared in Rev. xx. 12, "And I saw the dead small and great, stand before God; and they were judged every man according to their works."

But of all the doctrines propounded by Swedenborg, the most popular, the most fascinating, and the most delightful is the doctrine, or science, of Correspondence, first spoken

[1] Published by Messrs. Frederick Warne & Co., Bedford Street, Covent Garden, London.

of in his *Animal Kingdom.* The basis of this science is, that all natural objects are the result of a spiritual cause. Creation is the first Bible; and in our lucid moments we all seek to translate outward phenomena into spiritual principles and mental processes. God's thoughts are ultimated in the visible universe, and the relation existing between the one and the other is what Swedenborg means by Correspondence. As the works of God are parabolic, so with the Word of God: it is written in images drawn chiefly from nature. These images are there, not as mere poetic fancies, but by the Divine law of Correspondence, and when spiritually understood, the Bible becomes truly and really a spiritual revelation, unfolding the structure of our moral being and unveiling the unchanging purposes of the Almighty.

Swedenborg left his books a legacy to the world, to sink or swim as Providence might decree. In due time a few gentlemen, chiefly from the Church of England, began to read them. Increasing in number, they at last formed themselves into an unsectarian organization for propagating Swedenborg's views. Hence came the Swedenborg Society in 1810, and hence came the International Congress to celebrate the centenary of that institution. To-night we are standing on historic and classic ground. This building—the Connaught Lecture Room—stands on the site of the old Freemasons' Tavern, where the Fathers of the Swedenborg Society dined together previous to the Annual Meetings for forty or fifty times. It is, however, specially to be noted, that these dinners were intended, not for animal gratification, but to promote charity and good-will amongst the members. That principle is a bit of real and genuine Swedenborgianism,[1] and it seems a great pity that it should have been allowed to fall into disuse.

In studying Swedenborg's works, no one need fear that he will be led to think less of prayer, of worship, of faith, of Providence, the Divinity of Christ, the Word of God, salvation, immortality, heaven, hell, of the Church, the atonement, the two Christian sacraments—Baptism and the Holy Supper—and of all the great fundamental doctrines confessed by the Evangelical Christian world.

This being the case, the question will very naturally arise, "Wherein is the use of his theology, and why was it ever given to the world?" It is a perfectly fair question, and it deserves a perfectly explicit answer. In brief, Swedenborg's

[1] See *True Christian Religion*, 433.

answer is, First, because in the whole of Orthodox Theology, from creation to the atonement, from the incarnation to the Bible itself, and from this life to the life to come, there was not remaining one single doctrine which had not been perverted; and in his esteem, unless true doctrines had been restored to mankind, "No flesh could be saved" (Matt. xxiv. 22. *T. C. R.*, 758). Secondly, because while the doctrinal confessions of Protestant Christendom remain the same for all, yet they have not been understood, and they demand, and must have, a new and rational interpretation.

As an illustration of this fact, look for a moment at astronomy. Down to the sixteenth century, what is known as the Ptolemaic system of astronomy dominated the scientific public. The primary and fundamental doctrines of this system are, that the earth is the centre of the universe, and that the heavenly bodies revolve round it in circles, and at a uniform rate.[1] For 1,500 years of the Christian era, this erroneous belief was held by the whole civilized world. But in the sixteenth century Copernicus came. He, too, turned his attention to the sun, moon, and stars, like Ptolemy of Egypt. There was nothing new in the heavenly bodies; they were just the same as Plato, Aristotle, Ptolemy, and all the great men before him had studied and written about, and they were the identical suns and planets that all mankind looked upon previously from the cradle to the grave. On these same objects familiar to all, Copernicus wrote a famous book.[2] He dared not have it printed until just before his death; just before he died in 1543 he sent it to the press, and the first copy was touched by his dying hands only a few hours before he expired. The principles propounded in this book were regarded by the Church in the sixteenth century as the grossest heterodoxy and heresy of the day. They were scorned and reviled; and if Copernicus had been alive he would have been imprisoned, and possibly executed for writing and publishing them. Here also comes the question: If Copernicus believed that the sun, moon, and stars were heavenly bodies, the same as all astronomers before him, and the same as all mankind in his day, what need was there for him to write his book and start this new heresy?

The reply is that, precisely the same as with Swedenborg

[1] It must be borne in mind that what is called the Ptolemaic system of astronomy existed long before Ptolemy was born. What he did was to reduce to a scientific form the primitive notions held by Plato, Aristotle, and Hipparchus.

[2] On *The Revolution of the Heavenly Bodies.*

to-day, it all turned upon the important question of interpretation. Copernicus believed that all astronomers down to his day had misinterpreted the movements of the heavenly bodies, and he was quite right. He did not invent any new worlds, and he did not try to lessen their number; all he did was to give mankind clear, definite, and correct information on subjects which before they did not possess. That was all. He told men for the first time in the history of the world, that the sun was at rest in the centre of the solar system, and that the earth and planets moved round it as a centre. That dreadful heterodoxy of Copernicus in the sixteenth century is the origin of everything believed by astronomers to-day. Although in its day the astronomy of Copernicus was regarded with horror and hatred by the Church, yet it was not only perfectly harmless, but substituted truth for dogma, knowledge for authority, correct information for blind credence, and rational science for superstition. Had the movements of the heavenly bodies been correctly interpreted, the heresy of this astronomer would never have been heard of. The sole purpose of the Copernican heterodoxy was simply to extend human knowledge.

Substituting the name of Swedenborg for that of Copernicus, and the doctrines of the Christian religion for the theories of the ancient astronomers, we have a fair and complete answer to the question, why it was that Swedenborg's Theology was given to mankind. It was simply to interpret the Word of God aright; to explain the divine Trinity, to extend our knowledge of redemption, salvation, the future life, the church, the incarnation, the atonement, and the second advent, and to give the information which mankind, by their own confession, did not, and by their own confession do not, even now, possess. At this moment it is admitted on all hands, that there is doctrinal chaos throughout the whole of the Christian world. The need of Swedenborg was never greater than it is to-day.

Swedenborg aims to destroy not one single Christian verity. His teaching is not like Rationalism, Agnosticism, Secularism, Postivism, or even Unitarianism. All these heterodoxies are to some extent negative and destructive. Every one of them aims to destroy man's reverence for the Word of God as an infallible divine revelation; and every one of them seeks to degrade the Lord Jesus Christ and reduce Him to the level of a specially-gifted man. Where these heterodoxies come, nothing, that Evangelical Christians reverence, is safe. On the other hand, where Swedenborg's teaching comes, what they reverence is not only safe, but

doubly secure. If orthodox Christianity had been able to answer man's questions relating to the Bible God, and the future life, Swedenborg would never have been heard of; but it was not able, and it is not able now. His theology came, because old creeds and old ideas in theology failed to satisfy the critical intellect; it came as an antidote to infidelity and scepticism, and it came to help forward reverent and rational Christian thought in all departments of religion. It came under the direction of the Divine Providence to meet one of the ever-increasing spiritual needs of man; it came as an interpreter of old subjects not understood, and it came in fulfilment of the divine command, "Let there be light."

Taking no credit to himself for what he teaches, but ascribing all to the Lord, yet Swedenborg claims to supply the information needed by those in darkness, doubt, and unbelief, and what he asks for above all things is, honest and impartial investigation. Above all, whatever Swedenborg may have to say upon marriage, baptism, the Holy Supper, worship, the atonement, the Word of God or salvation, his supreme purpose is to make this world a religious world; to regulate the affairs of this life by the practice of what we know to be right, and to induce mankind to do God's will on earth as it is done in heaven.

Swedenborg's teaching is affirmative in everything consistent with rational religion, and its crowning doctrine is that "All religion has relation to life, and the life of religion is to do good."[1] Its purpose is, "To study and obey the laws of God so far as they concern man's individual life, until the ideal humanity is reached in body, brain, and spirit." Swedenborg's doctrine of life comes and "knocks at the door of every household, and utters its command of duty to every member of the family, so that what they do shall purify and beautify the world. It goes to the office of every business man, and utters its command to be honest, fair and just, so that every person he deals with shall be benefited and not hurt. It makes business a part of the religious elevation of the world. It goes to politics, and bids every politician order his affairs so that justice shall be subserved, so that human well-being shall be reached, and so that humanity shall be made a little better. It goes to the manufacturer, the employer, and the capitalist, and it bids each one manage the mighty power of his capital, not to crush those who work for him, but to treat them as men, with justice and fairness, and try to make them better men as well as better cogs in a machine. It goes to the labourer, and tells him to be faithful

[1] *Doctrine of Life*, 1.

in his calling, to do good work, and so to better his own condition that the condition of the whole race shall be better at the same time." This, in the estimate of Swedenborg as a Theologian, is the great purpose of all his works.

His Theology ever looks forward and dreams of a day when, above everything, charity shall be supreme, and when all good men, in all communities, irrespective of creed or nationality, shall recognize each other as brethren. The one aim of his Theology is the triumph of Christianity, when war and poverty and crime will only be remembrances of the far-off past; when all men and women will be loving, true, and faithful to each other in all the relations of life; when there will be no more evil, no necessity for reformatories and gaols, and when all mankind will have the law written in their hearts. It believes there is room for improvement everywhere and in everything; it appeals to men's intelligence as well as their reverence; it aims to make men free and religious; it places the Bible in every man's hand, and while it is fearless in criticism, yet its sole aim is to unfold its wisdom as a revelation from God. It seeks to deliver men from spiritual bondage, to liberate those sitting in spiritual darkness, and to end the reign of religious mystery; and on all subjects its affirmative declaration is, in Swedenborg's own words, "It is now permitted us to enter intellectually into the mysteries of faith."

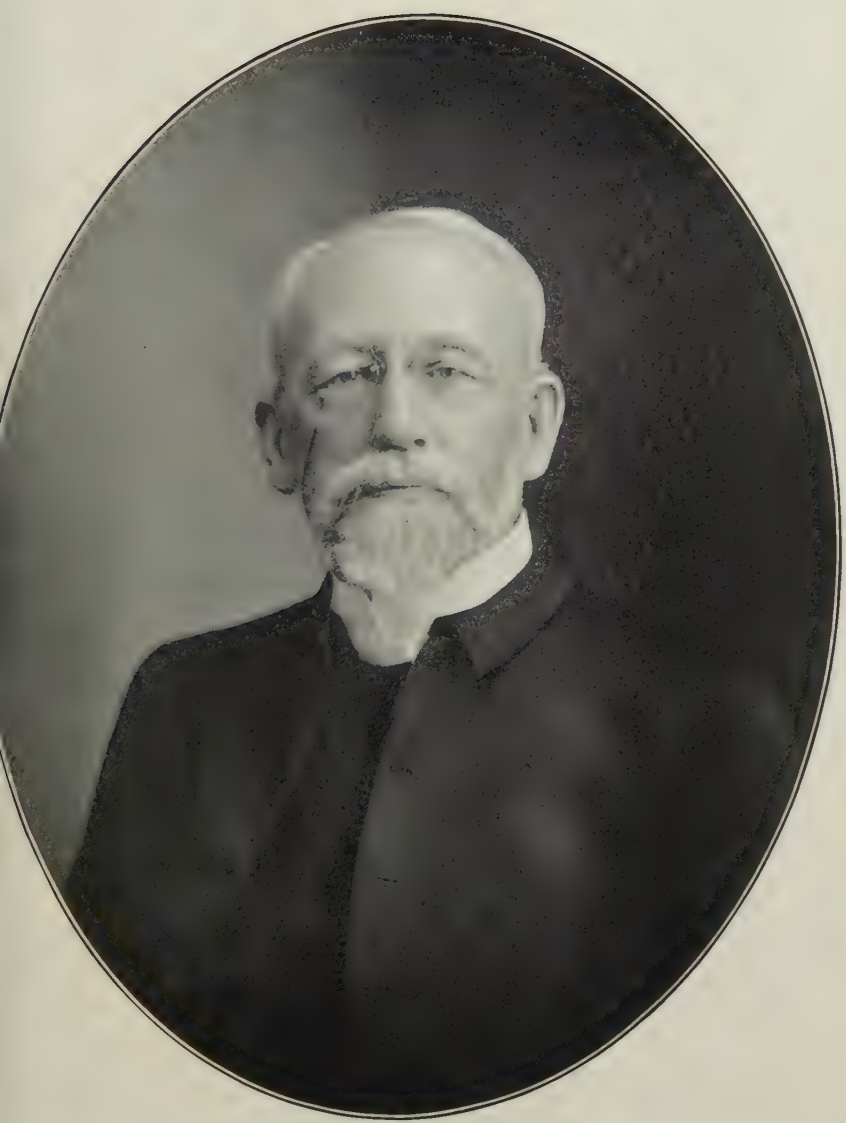
MORNING SESSION

Friday, July 8th.

The President briefly introduced as Chairman for the day the Rev. Samuel S. Seward, Detroit, Mich., President of the General Convention of the New Jerusalem, U.S.A., who delivered the following.

CHAIRMAN'S ADDRESS

In the few remarks which I feel at liberty to make at this last session of the Congress I shall not attempt to deal with any special subject, but simply to indicate how great is the impression that this Congress has made upon my mind. So far as I can remember this is the first occasion on which Science and Religion have met on equal terms on the same platform—the first meeting at which religious men have invited scientific men to co-operate with them in the work of upbuilding the truth in the world—and at which scientific men have entered without apparently the least fear of any



REV. SAMUEL S. SEWARD, [*p.* 284
President of the American Convention of the New Jerusalem

prejudice against them. We all know that in the past there has been an almost perpetual conflict between science and religion, which, it is true, has been subsiding for a number of years, and now we see that the two have come together under the leadership of that great man who was prepared to receive revelation from the Lord by his training in natural science, thus harmonizing the spheres of spiritual and natural knowledge so as to bring the two together as one. We can see the reasonableness of this reconciliation. It is impossible that scientific truth and revealed truth should be really discordant. There is no room for jealousy, and there need be none, on the part of theologians with regard to scientific men. There is no room for any discrepancy between scientific and religious truth. The fact that on this occasion theologians and scientists meet together is due to the influence of that master mind which the Lord raised up and prepared to be the instrument for the revelation of spiritual truth to the world. I think, therefore, that this meeting is prophetic. It is prophetic of the fact that henceforth religious truth must be solidly and squarely based upon scientific truth, and that scientific truth must act as the basis of theological truth. It has been a matter of very great gratification to me to remark that the men of science who have been here have shown no jealousy of the theologians, while the theologians have welcomed them as supporters of their own cause.

On behalf of the American General Convention which I have the honour to represent, and on behalf of the great mass of the people of the Church in my own country, for whom I am sure I can also speak, I desire to congratulate the movers in this Congress on the courage, the wisdom, and the zeal which they have shown in convening it. We owe them a debt of gratitude for what they have done.

SWEDENBORG'S ESCHATOLOGY

By the Rev. Joseph J. Thornton, of Glasgow

I. The Scope of the Subject.

Among theologians, the term "Eschatology" is commonly employed to mean the "Doctrine of the Last Things." It was not used by Swedenborg; but from its inclusive significance it conveniently describes the Christian belief in regard to death, the resurrection, the intermediate world of spirits, the last judgment, the second advent of the Lord, and the final states of the righteous and the wicked in heaven and hell.

Under this term are thus grouped a variety of subjects. Even this catalogue scarcely suffices; for many would still reckon the so-called "Millennium" as one of the last things.

Eschatology therefore implies a series of topics, each different in itself. Swedenborg did not attempt to treat of them all together. He has one book on the "Last Judgment," and another on "Heaven and Hell." Nevertheless, there is a connection of the whole group: and it is possible to regard the series as links of one chain, leading from man to the Lord; so that as we pass from one to another we can accept the guidance He has afforded in His Word, now opened to the world by interpretations divinely given to His servant and seer. To men, whether believers or unbelievers, who seek the freedom of their minds from the traditions of older beliefs, and who desire to bind their religion and conscience to the life, a spiritual understanding of these revealed truths is of pre-eminent use.

Swedenborg approached each of these subjects from a standpoint distinctly remote from that of his own time. Being led by the Lord into an understanding of the internal sense of the Word and thus into its true Divine interpretation, the "last things," to him, assumed an entirely different aspect; and it is one of the remarkable features of his theological works that he presents entirely new conceptions of each subject in its turn; though he always sets forth every doctrine in its own true light, as that of the Divine Word.

With each subject waiting to be touched upon, for the purpose of briefly indicating the New Doctrine contained in his theological works, it is necessary to refrain from attempts to refer to the extensive literature of the last sixty years bearing on the same topics. A considerable portion of popular thought regarding man's future state has been manifestly influenced by Swedenborg; indeed few know how much the world owes to his treatises, though traces of their teachings are easily discovered in all Churches. But to follow such lines of investigation is not the business now in hand. Only one thing is here possible, that is, to state frankly and concisely a few of the most salient features rendered conspicuous in the eschatology given to Swedenborg; and it would be difficult to introduce even half of these. It is necessary, however, to show to some extent, as Swedenborg loved to do, that all these doctrines are drawn from, and based upon, the Word of the Old and New Testaments.

Perhaps the most revolutionary part of the doctrine he presents is that which relegates to the region of historic

events the Last Judgment, the Consummation of the Age, and the Second Advent of the Lord. Although he wrote in the eighteenth century, he emphatically set aside the then prevailing idea of a great cosmic dissolution, described as the "end of the world." He had no hesitation in stating that the earth will endure, and no one need look forward to its perishing by any means. "*Say among the nations that the Lord reigneth: the world also shall be established that it shall not be moved*" (Psalm xcvi. 10). (See *L. J.*, 6.)

In face of these differences it is easy to see at once that the Eschatology of Swedenborg could not be made to fit into that of the great ecclesiastical theologians. It is divergent from all former preconceptions; but this never implies the least laxity in regard to the teaching of Divine revelation. Swedenborg never speculates; but with him all doctrine is drawn from the letter of the Word, and on that it stands foursquare and firm.

He comes before us as one who received Divine interpretations of the written Word from the Lord. Facts relating to the other life were also made known to him because they were necessary to enable mankind to understand the Word. In the work on the Last Judgment he tells us (*n.* 65) that lest men should from age to age everlastingly expect the passing away of sky and land in the world of nature, the Lord had been pleased to open the spiritual sense of the Word, and to make known what is meant in Revelations xxi. 1 by "*the passing away of the first heaven and the first earth.*"

In Holy Scripture, the Lord is His own interpreter, and He has made this plain, that the first heaven and the first earth which did pass away, were both of them *products of disorderly conditions*—that is, conditions temporarily permitted in the World of Spirits prior to the Last Judgment.

Swedenborg's Eschatology is not separable from his Exegesis. It is bound up with the interpretation of the Word in every book from Genesis to Revelation; and when the whole Word is unfolded and the seals of the book are loosed by the Lord, we are presented with a holy and rational conception of the last things, and a series of new and happy expectations.

II. Death and the Resurrection.

In Swedenborg's Eschatology, Death and the Resurrection are exactly what the Old and New Testaments describe them to be.

The Lord Himself is "*the resurrection and the life*" (John

xi. 25); because it is by His power that the dead are raised, and always were raised; for "*all live unto Him*" (Luke xx. 38). Men in this world are, and they always were, spirits, clothed with material bodies, every one's body being subject to the control of thought and the decision of affection; and no man ever lives except by the perpetual reception of life from God.

Swedenborg states the fundamental fact of human immortality when he says that man, as to his internal or spiritual form, "cannot die; for he can believe in God, and also love God" (*A. C.*, 10591). This remains true even with the wicked; because, though a man may destroy his understanding of truth and his perception of good by falsification and perversion, "yet, by virtue of his ability to appropriate life *as* his own, he can conjoin himself with the Divine, and thence live to eternity" (*A. E.*, 547). As a spiritual being, he is able to reciprocate the Divine in both acknowledgment and affection.

The spirit, viewed in itself, is the man who lives and feels; and when by the death of the natural body a man is separated from the mortal part, he still remains and lives,—being then immediately introduced among his like in the spiritual world. The spirit of a man, equally with his body, has a heart and lungs, a pulse and respiration. But the death of the body is a necessity, that man may arise from the material environment of earth, and be admitted into heaven. Physical death is nothing else but the putting off of the material part. To the man—

> "There is no death! What seems so is transition;
> This life of mortal breath
> Is but a suburb of the life elysian,
> Whose portal we call death!"

As soon as the motion of the heart has entirely ceased, a man is raised again; and this is effected by the Lord alone (*H.*, 447). "*As touching the resurrection of the dead, have ye not read that which was spoken unto you by God, saying, I am the God of Abraham, and the God of Isaac, and the God of Jacob? God is not the God of the dead, but of the living*" (Matt. xxii. 31, 32).

An intensely interesting part of Swedenborg's Eschatology is that in which he describes, from actual experience, the process of dying and being raised to life in the other world. It was granted to him to pass through a state "nearly" like that of dying persons: and he tells us that, when the

respiration of the body was "almost taken away," the respiration of the spirit remained. Communication was opened with the Lord's celestial kingdom in heaven; angels were present; his own affection was taken away; and thought was received from the angels. There was a drawing and, as it were, an attractive force, pulling and extricating the spirit from the body; light was given; the angels sought to render service, and to convey instruction. Nothing but tender mercy ruled over the whole (see *A. C.*, 168, and *H. H.*, 449).

Thus it is that, according to Swedenborg's Eschatology, death is only like "passing from one place to another." Each man, as he dies, carries with him all things that belong to him as a man—his natural memory included; for he retains everything which he had heard, seen, read, learned, and thought in the world; though natural things are quiescent, unless reproduced "when the Lord pleases" (*H. H.*, 461).

The time of every man's death is under the Lord's providence, and there are reasons why some die in childhood, some in youth, some in adult age, and some in old age. The first reason, determining the time of death, has regard to the man's own individual use in the world. The second arises out of the fact that, while in the world, he is, as to his interiors, present with angels and spirits, and is of use to them. The third arises out of considerations bearing on his own regeneration, and the removal of dormant evils, which, if not detected and rejected, would bring him to misery hereafter. The fourth relates to his use in the other life, and to eternity. But whenever a man dies, whether sooner or later, his bodily death is followed by his spiritual resurrection, and those are specifically called by the Lord "*The sons of the resurrection*," and "*equal to angels*" (Luke xx. 36), who, by becoming regenerate on earth, are conjoined to the Lord by love, and thus are mentally in that spiritual "marriage of the good and the true" that makes them the "*sons of his bride-chamber*" (Matt. ix. 15).

Thus Swedenborg anticipated the now accepted truth that physical death is not, and never was, a penalty for man's wrong-doing; but rather an orderly step in human development. This was the Lord's teaching in John: "*Except a corn of wheat fall into the ground and die, it abideth alone; but if it die, it bringeth forth much fruit*" (John xii. 24). The Lord's DIVINE HUMANITY, now lifted up from the earth and glorified, draws "all men" to Himself (John xii. 32). The resurrection is therefore an unfailing event to every man who

passes from us by death. He lives again; "*because the Lord lives*" (John xiv. 19); for the Lord raises him up. The dust returns to its earth; but the spirit—always loved by God—renews consciousness, action, and use, in the spiritual world.

III. The World of Spirits and Judgment there.

The next part of Swedenborg's Eschatology is that which refers to the World of Spirits; and Judgment there.

In approaching this important part of Swedenborg's doctrine, it is necessary first to make clear two of his terms. He tells us that "The World of Spirits" is one thing, and the "Spiritual World" is another (*D. L. W.*, 140). The World of Spirits is not heaven, neither is it hell. It is that of which our Lord Jesus Christ spoke as a "*great gulf*" (Luke xvi. 26), a wide expanse between heaven and hell, so large that, to those in it, it appears as a globe or world, full of spirits. It may be likened unto the great Judgment Hall, into which the dying enter. It is a distinct sphere; and in no sense a part of either heaven or hell. It is also a region into which the opposing influences of both good and evil come; for it receives a copious exhalation of evils from hell, and a continuous and copious inflow of good from heaven (see *T. C. R.*, 745). And yet it separates the two, as Abraham showed, when, speaking from heaven to one in hell, he said: "*They who would pass from hence to you cannot; neither can they pass to us that would come from thence*" (Luke xvi. 26).

In outward aspect, the "World of Spirits" appears to sojourners very similar to the natural world. Similar things are present; and the similarity is so striking that "man after death scarcely knows otherwise than that he is still in the world where he was born" (see *H. H.*, 582). It is also a world where history is made, and history there is as really true as anything "historical" on our planet. But the events transacted in that world proceed according to spiritual law, and the processes of change and examination are so searching that no one can be said to escape a genuine self-revelation.

There are, however, great differences. Those who, in this life, have already been so far regenerated and prepared as to have overcome such evils as opposed the Divine order, are "taken up into heaven immediately" (*A. C.*, 1850). To them it is, as Paul says, being absent from the body, they are "*at home with the Lord*" (2 Cor. v. 8). The Saviour also said: "*Where I am, there shall also my servant be*" (John xii. 26).

With the inwardly wicked the case is entirely opposite. Such as have "filled up the measure of their wickedness with wiles, and have used goodness as a means of deceiving, are immediately sent into hell" (*A. C.*, 1850). Like Judas, they go to their own place (Acts i. 25). But these very pronounced characters are few, in comparison with the much greater number who, on entering the World of Spirits, are as yet unprepared for either heaven or hell.

In the great majority of cases, persons who die and pass into the other life experience a residence of some time in the World of Spirits; and they usually pass through three states.

Of their first state, little need be here said. They are yet able, as they were on earth, to assume aspects agreeable to moral or civil life; to manifest their ordinary dispositions, and to be easily recognized by friends. But the second state is different. In it they think and act more freely from their real affections; their qualities appear without disguise; and while the inwardly wicked act more foolishly and insanely, the good act more wisely than ever before. The third state, if it is reached, is one of instruction.

All infants and children, after entering the other world, are instructed. They become angels, growing to maturity by virtue of the spiritual nourishment there received, which is good and truth suited to their states (*A. C.*, 4792). The good Gentiles, who have lived in charity, though they had not true doctrine, are also blessed; for, when in the other world, they readily receive instruction: and, on becoming Christians, they worship the Lord alone (*A. C.*, 932, 4721, 5256).

Each person makes a genuine revelation of character (see *H. H.*, 491–512). In one place Swedenborg speaks of "certain spirits who denied the crimes and enormities which they had perpetrated in the world. Lest they should be supposed to be innocent, all their actions were laid open, and recounted in order from their own memory. They were chiefly adulteries and whoredoms" (*H. H.*, 462). Some had deceived others by wicked arts, and had stolen. Their deceits and thefts were enumerated in order, though many of them were known to scarcely any one in the world except themselves. They were made manifest as in the light, together with every thought, intention, delight, and fear that engaged their minds at the time. It is obvious how closely this accords with the Lord's own words: "*There is nothing covered that shall not be revealed; neither hid, that shall not be known. Therefore whatsoever ye have spoken in darkness shall*

be heard in the light; and that which ye have spoken in the ear in closets shall be proclaimed upon the house-tops" (Luke xii. 2, 3). One of the most frequent of the Lord's declarations is this: That every one is to be judged according to his works. *"Behold, I come quickly; and My reward is with Me, to give to every man according as his work shall be"* (Rev. xxii. 12). But, in thus judging, the motive is always regarded by the Lord; so that a man is rewarded according to the affections and thoughts from which his actions spring, and not by a merely external standard. The fraudulent and insincere have hell in themselves; but he who acts sincerely, and does not defraud, because it is a sin against God and his neighbour, *would not* defraud another if he could. His thought and will are conscience; and he has heaven in himself (see *H. H.*, 358). *"Unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath"* (Matt. xxv. 29). No man is allowed to continue in possession of false appearances when the inward love of good from the Lord is not in him.

At this point there is only one other statement, immediately bearing on individual judgment, that needs to be adduced. It is Swedenborg's clear assurance that "it is impossible to implant the life of heaven in those who have, in the world, led a life opposed to the life of heaven." Repentance is not possible after death: for every spirit is, from head to foot, of the same quality as his love. As the tree falls so it lies (Eccles. xi. 3). "If the natural man be not prepared to receive the truths and goods of faith in the body, he cannot receive them in the other life; and thus he cannot be saved" (*A. C.*, 4588). *"He that is unjust, let him be unjust still: and he that is filthy, let him be filthy still: and he that is righteous, let him be righteous still: and he that is holy, let him be holy still"* (Rev. xxii. 11).

Beyond this, time does not permit us to say more regarding Swedenborg's many statements relative to the final Judgment on men as they now pass into the other world.

IV. Three Last Judgments—General and Historic; and the Mental State described as a "Millennium."

But no *résumé* of Swedenborg's Eschatology could even approximate to general completeness that did not briefly state his doctrine concerning the Three Last Judgments at the ends of three successive dispensations. They have all become historic.

In his work on *The Last Judgment* Swedenborg says: "A Last Judgment has been effected upon the inhabitants of this earth twice before, and now a third time" (*L. J.*, 67). This "now" meant the time when he wrote the work named, which was the year 1757, a memorable period, the real character of which was not then known by mankind in our world.

In expounding the Holy Word, according to its divine and internal sense, Swedenborg tells us that the first of these three great and general judgments took place at the end of the Most Ancient Church, the history of which is parabolically embodied in Genesis i.–viii. A Last Judgment is there described as the "flood," by which is represented a vast inundation of suffocating evils in the souls of men. A similar overwhelming of man's spirit, depriving the human race of respiration, *would* have taken place in a later age if the Lord had not intervened: "*If it had not been the Lord who was on our side . . . then the waters had overwhelmed us, the stream had gone over our soul, then the proud waters had gone over our soul*" (Psalm cxxiv. 2, 4, 5). In the case of the profane posterity of the Most Ancient Church, such a flood of diabolical evils *did* act upon men. Material waters were not meant; and are not to be understood in Genesis vii. and viii. The great truth underlying that parable is this: that when the last times of the first dispensation of religion arrived, the people living under it had become so horribly corrupt, and so profane, that "hardly anything of internal breathing remained; and, when there was none at all in the breast, they were suffocated from self" (*A. E.*, 1120). But, among a few of that posterity, the Lord changed the genius of the human race, distinguishing man's intellectual from his voluntary life; thus making it possible for mankind to think and understand independently of their own corrupt self-will; and thence to live according to a conscience formed by Him. The Second or Ancient Church, parabolically described by Noah and his household, was of that changed genius. It extended through much of the Asiatic world, and "was continued among the posterity of Jacob. Its end was when the Lord came into the world. A Last Judgment was then effected by Him upon all who belonged to that Church from its first institution; and, at the same time, upon the residue of the first Church" (*L. J.*, 46).

Here, again, the doctrine unfolded by Swedenborg is manifestly that of the Lord Himself, who said: "*For judgment came I into this world*" (John ix. 39); "*Now is the*

judgment of this world: now is the prince of this world cast out" (John xii. 31); *"These things have I spoken unto you, that in Me ye might have peace; . . . be of good cheer; I have overcome the world"* (John xvi. 33). As John the Baptist had foretold, the Lord, at His first Advent, thoroughly cleansed His threshing-floor: He gathered His wheat into the garner: and burned the chaff in fire unquenchable (Matt. iii. 12).

When, by that Last Judgment, the Lord had cleared the World of Spirits, removing vast myriads, so that they no longer intercepted the flow of goodness and truth to the souls of men, redemption was accomplished; and, for a short time, our world again enjoyed new gleams of heaven's life in the self-denying love of the *"little flock"* to whom the Lord was delighted to give His kingdom (Luke xii. 32). The first Christian dispensation was then inaugurated. But its end was foretold, and the future need of yet another general and Last Judgment was made manifest.

The Book of Revelation, given to the early Church, foretold the third great and general Judgment. It again laid the scene of that transaction in the World of Spirits. The Lord had previously described Himself as again coming after *"a long time"* (Matt. xxv. 19) to reckon with His servants. He said: *"Then shall He sit on the throne of His glory; and before Him shall be gathered all the nations; and He shall separate them one from another, as the shepherd divideth the sheep from the goats"* (Matt. xxv. 31, 32). In the same Gospel He says: *"This gospel of the kingdom shall be preached in all the world for a testimony to all the nations, and then shall the end be"* (Matt. xxiv. 14). Here, by the "world" is not meant the world of lands, but the Church in it (*A. R.*, 551).

The Judgment foretold by the Lord in the Revelation was not effected on those already saved and in heaven; nor was it effected on those already condemned and in hell (*A. R.*, 866). It was again, as before, a great and general judgment on those who had been permitted to tarry longer than others in the World of Spirits; that is, upon nominal Christians, Mohammedans, and Gentiles, who were externally civil and moral, but not interiorly lovers of the Lord and their neighbour. Such persons—making a good external show—were allowed to establish for themselves habitations there; to abuse correspondences; and to increase the number of fictitious or pseudo heavens. They appeared to be angelic, and, for many centuries of the first Christian era, they remained there.

It was on these persons that the Last Judgment foretold

in the Revelation was effected." The true heaven, where the Lord reigned, was then His "*throne*": "*great*" from the goodness of His Divine Love, active in judgments; and "*white*" from His Divine Truth with the angels. Of that heaven, represented as a throne, John wrote: "*And I saw a great white throne.*" By means of His own heaven, the Lord dispersed the fictitious heavens that had been established in the World of Spirits. The interior evils of those who dwelt in them were laid open to His light, as opened "*books.*" From His face, that earth, and those fictitious heavens "*fled away, and there was no place found for them*" (Rev. xx. 11).

Swedenborg tells us that this Last Judgment, executed in the eighteenth century of our own Christian era, "was effected in the following order: first, upon those of the Papal religion; then upon the Mohammedans; afterwards upon the Gentiles; and, lastly, upon the Reformed" (*L. J.*, 47). It took place in the year A.D. 1757; and of its actual execution, character, and order he was made the prepared witness.

One of the preliminary provisions made by the Lord for the safety and final exaltation of His faithful ones—a provision made before the time of the Last Judgment, is parabolically described in Rev. xx. by "*a thousand years*," during which they were preserved from communication with, and from contamination by, the seductive spirits then infesting the World of Spirits. A certain spiritual state was superinduced, in which the evil were separated, while the Lord led His faithful ones into the New Christian Heaven. Indeed, the Last Judgment was itself delayed, till those who had been faithful could be brought into blessed conjunction with the Lord, and with His heaven; and, in the meantime, He protected them; though they had been hated, abused, and rejected, because they had acknowledged the Deity of His Humanity, and had lived according to the commandments of His Word (*A. R.*, 325). But, in the spiritual world, *time*, as measured by the revolutions of planets, has no place. In the other world there is no orbit of the earth round a natural sun. The Apostle Peter says: "*Forget not this one thing, beloved, that one day is with the Lord as a thousand years*" (2 Pet. iii. 8). The Millennium, therefore, was not a prolonged time, but a part of the Lord's spiritual provision for His faithful ones, prior to the Last Judgment in the eighteenth century. God's "thousands" are not measured time; and this thousand represented a quality in the state of the faithful. That quality, with all that it involved, was an indispensable preparation preceding the Judgment itself. It existed because the Divine was with them.

V. The Second Advent.

Coincident with the Last Judgment in the eighteenth century was the Lord's accomplishment of His own promise to come again with spiritual light in His Holy Word. Nothing could have been more explicit than His own statements concerning His Second Advent. He said to His disciples: "*I go to prepare a place for you; and if I go and prepare a place for you, I will come again, and receive you unto Myself; that where I am there ye may be also*" (John xiv. 2). "*For as the lightning cometh out of the east, and shineth even unto the west, so shall also the coming of the Son of Man be*" (Matt. xxiv. 27). The Lord's Second Advent, on the side of the World of Spirits, involved a repetition of His redeeming work. He again delivered mankind out of the hands of their enemies, by removing from them the ascendency of evil spirits. But, to men in this world, the Lord's Second Advent was different from His first. He came not in a body of flesh, tempted and infirm, but "*as the lightning.*" So Divine Truth came upon the world. He prepared Swedenborg to be the human recipient, seer, and scribe, by means of whose labours He could give to this world a true understanding of the Holy Word, together with many facts relating to the other life, and a system of spiritual philosophy and theology such as could suffice for the rational faculties of men, who receive His guidance and live according to His law.

It is to be noted in the Book of Revelation that immediately after an angel had declared to John that "*the testimony of* Jesus *was the* spirit *of prophecy*" (Rev. xix. 10), John saw heaven opened; and there appeared a representative and living form. It is described as a "*White Horse,*" whereon the Lord sat. That likeness of a Horse represented the Divine Intelligence of the Lord Himself—His own understanding of the interior meanings contained in Holy Scripture—meanings full of that fidelity and truth which had first originated from Him, when He ruled "*the spirits of the prophets*" (Rev. xxii. 6, R.V.); by which also He "*made war*" on all the evils of hell. The literal sense of Holy Scripture, whereon men had for centuries wrought such great violence, was represented by the "*vesture dipped in blood*"; but the Lord's own Name was still called "the Word of God"; and in that Word He is thus represented as making His spiritual Advent—an Advent now affecting the whole human race.

Nothing is plainer in the world to-day than that a new feeling is now pervading the nations. A disposition, never to

be checked, is to-day growing up, that is justly intolerant of the old cruelties. The brutalities and oppressions of tyrants, whether domestic, local, national or ecclesiastical, sicken our moral senses; and the awakening intelligence of the world cries out for their abolition. But the power that lies behind all the holier impulses of our times is that of the Lord's own Presence in His DIVINE HUMAN, and in the spirit of His HOLY WORD. *He has come again!* and He has bestowed from Himself, and out of His angelic heaven, a New Doctrine, wholly in accordance with His own infinite Wisdom and Love —a Doctrine represented by "*The Holy City, New Jerusalem, descending from God out of heaven*" (Rev. xxi. 2).

The last portion of this paper is that which refers to the final states of mankind.

VI. HELL.

Of the misery of the wicked in hell, little need be said beyond this: that, terrible as the state of evil spirits is revealed to be, it is one in which the Lord exercises a merciful care over them; for He is always "*kind to the unthankful and to the evil*" (Luke vi. 35). He makes His sun rise on them as well as on the good (Matt. v. 45). "*His tender mercies are over all His works*" (Psalm cxlv. 9). That is all true: but it does not in the least degree annihilate the ever-horrible conditions that are superinduced on the wicked by their own self-will, for it is they who turn the sunshine of heaven into the fires of hell; just as poisonous and noxious weeds only use the heat of the sun to ripen the most deadly juices. With them the "*worm*" that never dies and the "*fire*" that is not quenched are the gnawing falsity that torments the soul with internal pain, and the insatiable hatred that burns against the neighbour and the Lord.

In hell, one evil spirit wants to be master over another, and finds his greatest joy in tormenting others. They are, therefore, forced to work, in places that are like prisons or workhouses, and they are miserably punished for their wickedness; but in His mercy the Lord restrains them, and prevents their deeper woes.

"The Lord draws every spirit to Himself by means of angels and also by influx from heaven" (*H. H.*, 548); but evil spirits resist with all their might, and, as it were, "tear themselves away from the Lord; for they are drawn by their own evil, and therefore by hell, as by a rope." "The Lord casts no one into hell"; but each evil spirit finally "casts

himself down" (*H. H.*, 548). The Psalmist said, "*If I make my bed in hell, behold, Thou art there*" (Psalm cxxxix. 8). The fear of punishment is in that world the "only means by which their evils can be subdued" (*H. H.*, 509). Exhortation is of no avail; nor do they stand in fear of the loss of reputation; nor feel the pangs of conscience, for conscience has been destroyed in them. In Genesis we are told that "*In the beginning God created the heavens and the earth*" (Gen. i. 1); but it is never said that He created hell. That was not His product, nor part of His plan. Swedenborg says that "no punishment is from the Lord, but from evil itself" (*H. H.*, 550). It is "*evil that slays the wicked*" (Psalm xxxiv. 21). The enemy "*made a pit, and digged it, and is fallen into the ditch which he made*" (Psalm vii. 15).

VII. Heaven.

But while hell is a product of man's self-will in ascendency, and acting against the Divine, Heaven is in the order of God.

At the very basis of all Swedenborg's theology is his declaration that the universe, with its myriads of natural suns and solar systems, "is a coherent work," created by God for "one intended end—that was the production of an angelic heaven from the human race" (*T. C. R.*, 13). Heaven, as a vast and innumerable company, gathered from all the inhabited earths of the universe, is the central and last fact in Swedenborg's Eschatology. The Lord Jesus Christ is the one God, and the Father of the human race; heaven is His house, the home of divine and mutual loves, toward which all tend; for which worlds were made; and to which all races of men are incessantly led.

Love's possession was the Lord's topic when He said, "*In My Father's house are many mansions; if it were not so I would have told you*" (John xiv. 2). There are other globes and earths besides our own, teeming with inhabitants, each of which is a seminary of heaven; for of each it may be said, God "*created it not in vain, He formed it to be inhabited*" (Isaiah xlv. 18). He made no planet but that it might be for man, and render some service in the outworks of His universe.

In the *Arcana Cœlestia* we read: "All persons, throughout every globe of earth in the universe, are accepted and saved by the mercy of our Lord, who have lived in good, good being the very essential which receives truth, and the good of life

being the ground of the seed, that is, of truth, which evil of life is incapable of receiving" (*A. C.*, 2590).

In heaven there are not only men from our own globe, but from every earth in the universe. The Lord says, "*They shall come from the east and the west, and from the north and the south*" (Luke xiii. 29). John tells us that those who acknowledged the Lord's saving power in heaven were "*out of every tribe and tongue, and people and nation*" (Rev. v. 9). The Lord's heaven therefore is so "immense that it can never be filled to eternity"; and however many go thither, "*yet there is room*" (Luke xiv. 22).

This vast and inconceivably great heaven is one in which the Lord alone reigns; and it exists because it is the sphere wherein His love and wisdom are active. His omnipresence therein is effected by means of the nearest sphere immediately surrounding His glorified Humanity, the only spiritual sun of the whole spiritual universe.

But while the Lord is above the angels in His sphere of love, He is also in them by virtue of the love and wisdom that proceed from Him to them (*D. P.*, 31). At times He is seen in His angelic form "out of" that living sun which encompasses His person, and He is then "distinguished by the Divine which shines in His face" (*H. H.*, 121). And yet there must be harmony between the Giver and the receiver; and therefore no angel can enter heaven, so as to rejoice in it, unless he has heaven in him. To teach us that, the Lord says, "*Behold, the kingdom of God is within you*" (Luke xvii. 21).

Every one in the heavens knows and really believes that, as a man, "he wills and does nothing good from himself, and that he thinks and believes nothing of truth from himself." The Lord is the only fountain of life. The angels live from Him. To open to mankind the same life, He says, "*Abide in Me, and I in you. As the branch cannot bear fruit of itself, except it abide in the vine, so neither can ye, except ye abide in Me.*" . . . "*Apart from Me ye can do nothing*" (John xv. 4, 5).

The NEW DOCTRINE now given to the world tells us many things regarding the Heavens—their order and distinctions, their societies and uses, the employment of angels, their worship, their wisdom, their innocence and their love, their peace and their joy. We are taught that "they who are in heaven are continually advancing to the springtime of life" (*H. H.*, 462); that "women who have died old and worn out with age, if they have lived in faith in the Lord, and in charity towards their neighbour, come, with the succession of

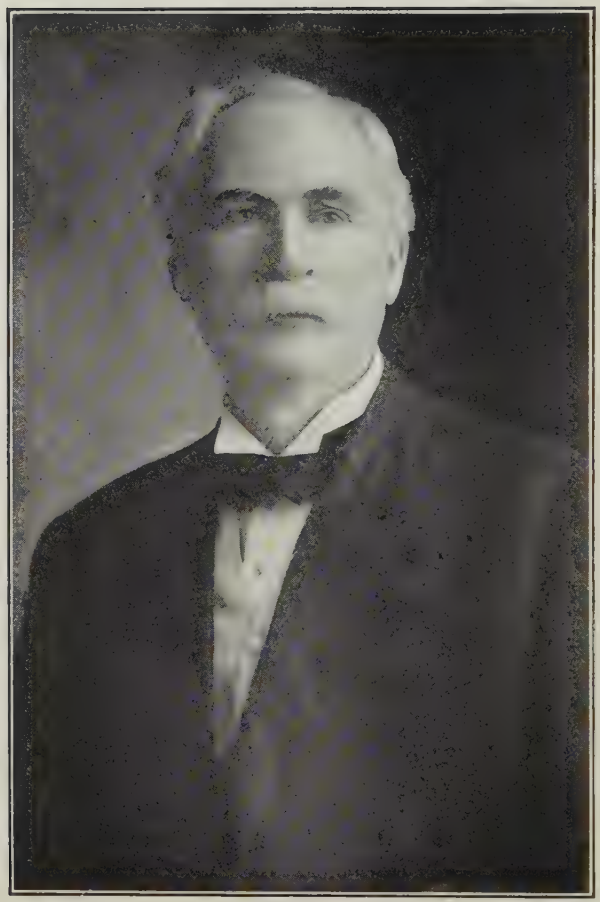
years, more and more into the flower of youth and early womanhood" (*H. H.*, 414); that in heaven "marriage has its origin in the conjunction of two into one mind; and this is called in heaven 'living together'; and it is said of such that they are not two but one; and so two consorts in heaven are not called two, but one angel" (*H. H.*, 367); that "by spiritual weddings is meant conjunction with the Lord; and when this is effected on earth, it is also effected in the heavens" (*C. L.*, 41).

"Everywhere in heaven those who are alike are united." "Like are brought to like, not by themselves, but by the Lord." In heaven, they *neither marry nor are given in marriage* (Luke xx. 35, 36); for marriage there is not of the flesh, neither is it ordered, designed and arranged according to the will of men. They are as the angels; and because their unions are spiritual and according to the divine will, not man's will, the whole case of marriage is different: it is that of God-made oneness in the spirit; and angels therefore say, as the Lord said, "*What therefore God hath joined together, let not man put asunder*" (Matt. xix. 6). For the same reason also heaven itself is compared to a marriage (Matt. xxii. 2).

The angels, being led by the Lord, are organized and associated in societies; and, from the Divine Love within them, they seek not their own, but rather the welfare and peace of others. Indeed they love others more than themselves; and from the spontaneity of their love, their occupations give them unfailing delights. An angel's employment in heaven is not necessarily similar to that in which he was engaged on earth. It could not be so. A man's use in that world is that which most perfectly accords with his abilities, the tendencies and dispositions of his regenerating soul. "*Their works do follow with them*" (Rev. xiv. 13).

Heaven is human, because it is from the DIVINE HUMANITY of the Lord: that alone makes heaven. It is full of human loves, human associations, and human aspirations and joys, all originating in God. It is a kingdom of uses, and corresponds to the uses in God Himself, the Maker and Preserver of heaven and earth, the only Redeemer and Saviour of the world.

At the present moment, and in connection with this centenary, it is, no doubt, excusable for us to call these truths "Swedenborg's"; but the fact is, he was never more than the Lord's servant, when the Lord Himself unfolded them from His own Word. So far as this doctrine accords



THE HON. JOB BARNARD, [*p.* 301
Judge in the Supreme Court of the District of Columbia, Washington, D.C., U.S.A.

with the spirit of the Holy Word, it is the Lord's Eschatology —His divine doctrine concerning the last things; and, as we receive it, we would devoutly say, "*Blessed are the dead that die in the Lord from henceforth*" (Rev. xiv. 13).

All these doctrines centre in the Lord God Jesus Christ; —in His saving power, His mercy, and His presence with mankind. They are profoundly evangelical; and full of good news for all those that look to Him. They lead to repentance and a new life: indeed the New Church, called the New Jerusalem, is the most evangelical Church in the whole world; and, rejoicing in the Holy Presence of the Blessed Saviour Jesus Christ, it will for ever say, "*The Lord God omnipotent reigneth.*"

To Jesus Christ, the Lord, be glory and dominion for ever and ever.

DIVINE PROVIDENCE AND HUMAN FREEDOM

By the Hon. Job Barnard,

Judge in the Supreme Court of the District of Columbia, Washington, D.C.

A belief in the existence of some intelligent, omnipotent, supernatural Being, who guides and controls the destinies of men, has prevailed among most peoples since the earliest historical record. This Being is known by a variety of names in different localities, and in different stages of civilization.

The ancient Greek and Scandinavian had his favourite mythological deity; the heathen is devoted to his hand-made idols, whom he believes to be possessed of miraculous powers; the North American Indian worships "The Great Spirit"; the Mohammedan adores him under the name of "Allah"; while the Christian acknowledges Jehovah as the Almighty God.

The acknowledgment and worship of such a Being, in some form and by some name, is the primary thing of every religion. The New-Churchman believes that this being, who is the only object of worship, is the Lord Jesus Christ, God-with-us, the Divine Love and the Divine Truth in human form.

He believes the Lord Jesus Christ to be God incarnate; that He has all power in heaven and on earth; that in His

Holy Word, He gives us a revelation of Himself, and of His laws of life; and that from the letter of His Word we may learn the doctrine of His Divine Providence, which is the government of the Divine Love and the Divine Wisdom, and in which He regards what is infinite and eternal, and temporal things only so far as they agree with the eternal, to the end that a heaven of angels may be formed from the human race.

Man does not perceive and feel anything of the operation of the Divine Providence, but yet he should know and acknowledge it.

We are taught that the Divine Providence is equally with the evil as with the good; that every man is born for heaven, and not for hell; that an opportunity is provided by which he may be saved if he will, but that no one is compelled to be saved against his will; that foresight is joined with the Providence of the Lord, and that the two are inseparable; that evils are foreseen, and goods are provided; and that, by the provident disposition of the Lord, the evils so foreseen are continually bent to good, "for the Divine end of good reigns universally."

The Word is full of instruction concerning the laws of the Divine Providence. It tells us how we must live to be in harmony with the Lord; how to keep the commandments and to live unselfishly, that we may grow to be like our Father in heaven, who "maketh His sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust."

It tells us how we should pray for the coming of the Lord's Kingdom of truth, for the forgiveness of our debts as we forgive others, and for the doing of His will on earth as it is in heaven. It tells us how to lay up for ourselves treasures in heaven, and not on earth, and how we should take no thought for our life, what we should eat, or what we should drink, nor yet for our bodies, what we should put on. That the life is more than meat, and the body than raiment.

The steadfastness of the Lord in His providence, and His exhaustless mercy, is abundantly taught in the word.

"They that trust in the Lord shall be as Mount Zion, which cannot be removed, but abideth for ever."

"As the mountains are round about Jerusalem, so the Lord is round about His people from henceforth even for ever."

"In Thee, O Lord, do I put my trust; for Thou art my rock and my fortress."

"The Lord is my shepherd. I shall not want."

"He knoweth our frame; He remembereth that we are dust."

"For the Lord is good; His mercy is everlasting; and His truth endureth to all generations."

Many such sentences will readily come to our minds to show the confiding way the Lord would have us trust in Him, and rely upon His mercy, "that endureth for ever," and which show the operation of the spiritual laws upon our lives.

We may sometimes think that the wonderful doctrines of Swedenborg, concerning the ways of Divine Providence, the life of charity, and the necessity for our co-operation with the Lord, may be born of his imagination; but if we read the Word by the aid of the light which he has furnished, we shall find that all he says is found in the Word itself. He has only called our attention to it, and pointed the way for us to read and understand it.

When we read in the *Arcana* that the Lord so bends the evil that men do that good may result, we recall the story of Joseph and his brethren, the children of Israel in Egypt, the deliverance therefrom, and many other Bible stories which show that statement to be true, and to be plainly taught in the letter of the Word.

The Divine Providence is too great a subject to receive detailed consideration in a brief paper, interesting as it may be, and I have to consider it only in its relation to human freedom.

Every man delights to be in freedom of body and mind, and strives to secure it, and to maintain it under all circumstances and against all odds.

When King John, in 1215, at Runnymede on the banks of the Thames, granted the great charter, he secured to the English people many cherished liberties which had before that time been invaded, and provided safeguards which have continued to this day to preserve freedom wherever the British flag floats, or the common law prevails. Now no man can be lawfully held in slavery in all the broad lands which have inherited or adopted the principles of Magna Charta. Equality before the law, the right of equal opportunity to acquire property, home, family, and happiness, and to believe in accordance with individual judgment, are ideals to which all men aspire; and they are furnished in large measure to all English-speaking peoples. These liberties, and the toleration allowed by modern governments to religious beliefs, are essential in the Divine Providence, not only for

the natural good to be obtained therefrom by each citizen and by each nation, but for the greater purpose of furnishing a foundation for the exercise of spiritual liberty and freedom of conscience in the worship of God, so necessary for self-government and the growth of individual character.

There may be some who hesitate to believe in a Divine Providence, because they are unable to understand why, if the Lord is all-wise and all-good, and all-powerful, He does not make all men good. With His infinite love and mercy, and His omnipotent power, why does He permit crimes, calamities, cruelties, disastrous wars, and all manner of injustice and suffering on earth?

Many of these so-called evils are the result of "Man's inhumanity to man," and the Lord permits them because He cannot do otherwise without destroying human freedom. When earthquakes and cyclones and thunder-storms come to destroy life and property on earth, we look upon them as evils for which we are in no way responsible, and in which we can see nothing of good; but our limited vision, confined to a narrow horizon and a few brief moments of time, cannot properly judge such things. The Lord may see that such phenomena, to prevent which we are now utterly helpless, are necessary to call us back from our selfish and proud thoughts to a proper acknowledgment of the power that is higher than man. Such things may be necessary to inspire us with sympathy and pity for our fellow-men, who are suddenly stripped of their homes and friends, and thus may be taught to minister unto others. Our lives here, and all our earthly possessions, are but trifles compared with the immortal life and the treasures we should be laying up in heaven.

The Lord's ways are not our ways. When we are exalted in wisdom so that we may view such pictures in heavenly light, these dreadful scenes may take on new and rational and merciful meanings.

"Judge not the Lord by feeble sense,
But trust Him for His grace;
Behind a frowning providence
He hides a smiling face."

We must remember that the purpose of creation is the formation of a heaven of angels from the human race, the making of messengers and ministers to do the Lord's will. This is the difficult problem involved. How can human beings born on earth be so educated and trained in this

life that they may be raised up and developed into angels of heaven?

If man is to attain unto the likeness of his Maker in character, in love and truth, he must have knowledge and reason, and be in freedom to exercise his will and judgment. He must be instructed, must learn truth, and then must make his own choice, and act as if of himself. This he cannot do if some stronger mind dominates him to such an extent as to deprive him of free will. He must be allowed the privilege of acting from the motives which to him seem best, whether they are right or wrong; and the power to choose from right motives necessarily implies the power to choose from wrong motives.

He may go wrong, and if so, he will bring sorrow and suffering upon himself and upon others; but in the darkest hours caused by his own ignorance and wrong-doing, the Lord is always endeavouring to help him to correct his evil ways, by every means possible, without taking away his liberty. To deprive man of the power of choice, would deprive him of the possibility of angelic growth; and so it is indispensable that he be held in equilibrium, or in intellectual and spiritual freedom.

The Lord is constantly taking care of our bodies, and is ever providing safeguards for our souls, and longing to deliver us from our sins, if we will only let Him do so; but we must think and act as of ourselves, be left at liberty to will and to do, and in no other way is it possible for us to be reformed and regenerated.

We may see on reflection that this must necessarily be true, for any external force or pressure, extreme fear, or over-persuasion, or ambition for some special reward, cannot really reform us. When such external pressure exists we are moved by it, and not by our own wills. Only when it is removed do we return to our own chosen course.

We all need reforming; and if we are ever truly reformed, we must make up our minds not only to choose the better course of life, but to do so from unselfish motives. It is the motive in our own hearts that gives character to our acts. If we compel ourselves to do what our judgment and conscience tell us is right, we are still acting in freedom, for we are then acting as we have ourselves elected to do.

There are many evidences and illustrations of the necessity for freedom of will and thought. It is necessary for children to be directed and taught to be obedient to parents, but we sometimes see a parent of strong will and intellect who

exercises a dominating influence over a child after he has reached the age of rationality; and we see that if such undue influence is persisted in, the child's mental development is retarded. Such child has not the proper exercise of will and mind to give him strength. If some one else always chooses for us, and does our thinking, we cannot grow; we are weak; we have no moral or mental fibre to know and to withstand evil or to understand and combat falsity; and instead of having freedom, we are kept in bondage.

We send our children to school to learn certain scientific knowledge. We must furnish books and equipment, tools and laboratories, many things which may be dangerous in their character to be handled by the child; but if it succeeds in learning, the child must be instructed and trusted to use these things as of himself; to become self-reliant. If our boys learn to swim, they must be allowed to go into the water, even at the possible risk of drowning. While we furnish all the facilities, with teachers to help, still the child must feel that the responsibility of learning rests wholly upon himself.

It is in some such way that the Lord provides all things for us, without disclosing Himself to us, but keeping Himself concealed from our sight, so as not to overpower our wills by His known presence and power, and trusting to us to learn and use the truth in a proper manner, both as a shield and as a sword; and to take the responsibility of acting as of ourselves in choosing the good and rejecting the evil.

We sleep and wake with scarcely a thought as to our bodies, our vital organs being securely hidden away in the interior of our frames, and there supplied by the Lord with the chemistry of life each moment of the day and night. We go on eating and sleeping, working and planning, as of ourselves, and as if our good health and continued life were provided by our own prudence, without limitation of years.

When we come to consider our spiritual selves, our mental selves, we do so in the same way as if we originated every good thought and impulse of our own volition. We ought to know and acknowledge, however, that these are constantly supplied to us by the Lord through the spiritual world. They are so quietly given, and in such matter-of-course way as to leave us in freedom of willing and doing as if we ourselves supplied them; and this for the purpose of giving character to our spiritual and moral faculties by their proper exercise.

Swedenborg teaches that spiritual equilibrium in its essence is freedom, and that it is so because it is between good and evil, and also between truth and falsity, which things are spiritual. To be able to will good and evil, and to think what is true or what is false, and to choose one in preference to the other, is true freedom. This freedom is given to man with his life by the Lord, and is never taken from him. He has liberty to think ill or well, sincerely or insincerely, justly or unjustly; and also liberty to act well, sincerely, and justly, but not to act ill, insincerely, and unjustly, because of spiritual, moral, and civil laws, by which his external is kept in bonds.

Therefore it is plain that the spirit of man, that which thinks and wills, is in freedom; but not the external, which speaks and acts, unless this be in agreement with the laws of his environment.

Society finds it necessary to take away the liberty of certain classes of citizens, some for years, and some for life, because they do not regard the rights of others as they are established by the laws of the land; and for some offences the law in most jurisdictions, not only deprives the offender of his liberty, but also of his life. These punishments are inflicted upon transgressors by organized society in self-defence, so that other members of the community may dwell in safety.

Yet no man can become so vile, so low down in the scale of humanity, that the Lord will deprive him of the liberty of thinking and willing as he may elect; and the reason of this is that in no other way can the Lord lead him away from his evils and falsities, or help him to cease doing evil and to choose to do good; and it is always the Lord's purpose to save him from his sins if possible. All men have the chance to become regenerated, no matter how low they may have fallen.

If this spiritual freedom was not provided for man by the Lord, he would not be morally responsible for his acts. They would then have nothing of merit in them no matter how worthy they might be, and nothing of guilt in them, however unworthy they might be.

Man would then be only a machine, moving in the direction he was forced to move by the power outside of himself which controlled him. He would be like the idols of the heathen, hewn out of wood and stone, for having eyes he would see not, having ears he would hear not, and having feet he would walk not. That is, whatever he did would be

automatically done, and not from his own volition or initiative.

The laws of the Divine Providence desire to put man upon his honour, as well as upon his own responsibility. Actions from good motives, freely chosen, and conscientiously executed, give man freedom, and place him in the current of the Divine Providence, which is always striving to lead him "beside the still waters." It is the truth that shall make us free, and to know the truth we must use our own minds, reason from our own knowledge, decide for ourselves, and act on our own convictions. In short, we must live our own lives. The Lord says, when He, the spirit of truth, is come, He will guide us into all truth.

He guides us by unseen hands, through unseen paths, in order that we may be in freedom to act as from ourselves in all mental and spiritual ways. Our confidence in the Divine Providence induces peace of mind, and conduces to greater freedom. If we bring our burdens to the Lord, He will help us to bear them. When we confide in Him, we know that He is ever as ready to help us in the fight against evils and falsities, as the sun is to shine. To get the full benefit of the natural sunshine, we must come out from under the shade of our houses or groves, and turn our faces towards the sun. To get the full benefit of the Lord's loving provision for our salvation, we must faithfully do our part.

The woman at the well who gave the Lord to drink of the water, could not receive from Him the living water of life until she asked for it.

The promise to open the door is only in response to our knock; we are to receive when we have asked; we shall find if we first seek; the wine was furnished at the wedding feast in Cana by the Lord, but the servants were first required to fill the water-pots with water; and the Lord fed the multitude with the five loaves and two fishes, but only after the multitude was seated upon the grass in order.

The various blessings to those of the seven churches in Asia were promised only to such as should overcome, and be faithful unto death.

Therefore, in order for man to receive salvation, to be able to fight the foes of his own household, the selfish and sinful tendencies to which he is prone, and to gain the mastery over himself, so that he may be competent for self-government, he must have the truth brought home to him in his inmost mind and be left in freedom to choose the right, and to reject the wrong. He must voluntarily knock at the door, ask that he

may receive, seek that he may find, sit down in order on the grass, fill up the water-pots with water, resist evils and falsities—he must bring his external life into proper order. In no other way can he acquire angelic qualities, and the innocence of the child, so that it can be said of him, "Of such is the kingdom of heaven." He cannot be frightened into a regenerate life by the fear of hell, or of eternal punishment; nor forced into it by the over-persuasion of some dominating mind; nor led into it by the hope of reward; but he must, from reason, choose to do the right because it is the right, and because it is for the good of the neighbour, the church, and the nation.

On the walls of that beautiful building in Washington City, the Library of Congress, are many frescoes, representing civilization, law, literature, knowledge, etc., and these words from Micah, representing the essentials of religion—

"What doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?"

By doing justly and mercifully to our neighbour, and by walking humbly and faithfully with the Lord, we shall fulfil our part of the scheme of creation, and the Divine Providence will then assure us of salvation, and grant us the fullest measure of freedom.

"Trust in the Lord and do good; so shalt thou dwell in the land, and verily thou shalt be fed."

It is in accordance with the laws of the Divine Providence that we shall, in freedom, pursue our every-day work in this world, from a sense of duty to the Lord and of use to our fellow-men; and if we do so, we shall know in our own minds that we are making progress in the regenerate life, although it may be so slow as to be almost imperceptible.

Constant, cheerful, and faithful persistence in such work by all men, will, in the end, establish the New Jerusalem on earth.

"We rise by the things that are under our feet,
By what we have mastered of greed and gain;
By the pride deposed and the passion slain,
And the vanquished ills we hourly meet!
Heaven is not reached by a single bound,
But we build the ladder by which we rise
From the lowly earth to the vaulted skies,
And we mount to its summit round by round.

AFTERNOON SESSION

SWEDENBORG ON THE *MAXIMUS HOMO*

By the Rev. Henry Gordon Drummond, Manchester.

Bearing in mind the fact that the term body is applied to denote a single person, as in "somebody," "everybody," "nobody"; and, with equal propriety, a collection of persons, as in the case of public "bodies," the "body politic" and the general "body of mankind"; and remembering, moreover, that the term implies organization, structural form, such an arrangement and relation of parts as admits of their co-operative action—in a word, the efficient unit, we get a provisional idea of what is meant by the phrase, "Maximus Homo." It is the ideal Body; the greatest complete Organism; the Grand Unit of the life to come.

A unit is the least whole number of anything, and, in mathematics, a standard of measure. In relation to human bodies the least whole number is, of course, a single man. The single man is also the standard by which we measure corporate groups. We recognize the scheme of the unit in all our fellowships and associations. Intuitively we perceive that a society is an enlarged person. Its members take upon themselves functions that correspond to the members of the body of a man. In the unit of the kingdom or nation —the conception upon the maintenance of which the very existence of a people depends—the disposition is clearly seen. Every nation has its governing head; its attentive eyes and ears; its administrative hands and feet; its distributive organs. It acts as one body, and constitutes the Grand Man of the kingdom.

The late Frederick W. H. Myers, in his posthumous work, *Human Personality and its Survival of Bodily Death*, makes a reference to Swedenborg which might serve as an introduction to the subject in its bearing upon the spiritual world. He describes him as "the first leading man of science who distinctly conceived of the spiritual world as a world of law." Whether Myers, in writing this, recognized that a "world of law" must necessarily be a world organized after the pattern of a body—an ideal world after the ideal pattern, which is that of a man—may well be doubted; but he goes on to assure his readers that it was "Swedenborg who originated the notion of science in the spiritual world as earnestly as Socrates originated the idea of science in this

world of which we seem to know. It was to Swedenborg first that the unseen world appeared before all things as a realm of law; a region not of mere emotional vagueness or stagnancy of adoration, but of definite progress according to definite relations of cause and effect, resulting from structural laws of spiritual existence and intercourse" (vol. i. 105). This testimony to the scientific character of Swedenborg's contribution to thought may be noted with more than a passing interest, coming as it does from one who sought an assured knowledge of that unseen realm, by means deprecated by Swedenborg. Myers set out, as a seeker after "signs," to find, or make, a path for himself and others through the mazes of psychic investigation; he ventured himself into the treacherous waters of spiritistic phenomena; invited whatever aid might, perchance, be afforded by the trance-medium, the clairvoyant, the crystal-gazer or the hypnotist; received the doubtful witness of materialized spirit-forms. Swedenborg on the other hand claims, through no seeking of his own other than the philosophic seeking after spiritual truth, to have been intromitted, by the Divine mercy of the Lord, through the opening of the sight of his spirit, into the spiritual world; and from the standpoint of this rare, and in some respects quite unique, experience, he discourses in the dispassionate and purely scientific manner, born of his previous labours as an investigator into material phenomena, of the things he has heard with his own ears and seen with his own eyes. The very dispassionateness of his account—apart from its sweet reasonableness and absolute consistency—carries conviction. His report is that all things are from law and according to it. The universe knows no fortuitous happenings and no independent existences. It is the manifestation of one supreme, all-comprehensive principle of government—that law of which Hooker wrote, "Her seat is the bosom of God, her voice the harmony of the world." It is inclusive of both natural and spiritual worlds, and all things therein are related; they are connected by "correspondence." "Anything unconnected and thus independent cannot even for one moment subsist; for that a thing subsists is from its connection with and dependence upon that from which is everything of existence" (*A. C.*, 5377). It proves the same in its least parts as in its greatest. The whole may be interpreted from the part. Tennyson has said, of the flower

> "... if I could understand
> What you are, root and all, and all in all,
> I should know what God and man is."

And such is the consistency and sublime solidarity of Swedenborg's universe.

That life is essentially the same in small things as in great is a truth that has long been held, tentatively at least, by the world. It is reflected in worldly-wise proverbs and maxims. A straw is said to show which way the wind blows; a word is sufficient to the wise. Our faith in it as a working principle is proved by our habit of reasoning from particular things to general and even to universal. We read character at a glance; the mere turn of a head, or the tone of a voice is sufficient to reveal it to the observant and reflective mind. We find volumes in a look, life in a circumstance. The experienced anatomist will confidently build a skeleton from the evidence of a single bone. All this is admitted, but the fact should not be overlooked that particulars are eloquent of universals only to the man who already knows something of the universals to which they belong. To construct a skeleton from a bone you must first be familiar with the principles of skeleton formation. In other words, you must have a universal of thought. To tell what the flower is, "root and all, and all in all," you must have the understanding both of God and man.

In his doctrine of the "Maximus Homo," or the Grand Man of heaven, Swedenborg provides the universal of thought from which the particulars of experience may be systematically and intelligently regarded. Heaven, he tells us, is in the form of a man; it is a Universal Man.

He disposes of the popular misconception of angels as a specially created race. All angels, he tells us, were once men —are still men, in fact—human beings born on this or some other planet in the material universe. No higher order of creation is possible; and no development can rise above it. For the human is the image of the Divine. Angels are men not because of their earthly beginnings, or of their once having been clothed with material bodies, but because the human itself is from heaven. God is a Man; He is, in fact, the "Very and the Only Man"; and the angels are only to be regarded as human, relatively to Him; they are men in the degree in which they reflect His form and character. So all the forms of the material world approximate to the human, for the same reason, namely, that they also are from heaven. They reflect, each in its own degree, the common origin. This is the universal of thought with regard to them—a universal entering into every least particular. In the light of this we may look "from nature

up to nature's God" and so learn more of each. But not otherwise.

The perfect catholicity of Swedenborg's heaven need not surprise us when this principle of reasoning from the universal to the particular is remembered. It is no "little garden walled around." Rather is it "the true man's birthright grand"—the "fatherland" of all.

> "Doth not the yearning spirit scorn
> In such scant borders to be spanned?
> Oh yes! his fatherland must be
> As the blue heaven wide and free!"

He is the most broadly catholic of eschatologists. Heaven "cannot be composed of the men of one religion, but of many religions" (*D. P.*, 326). None are excluded from it by any evil of heredity or other circumstance for which they are not responsible; through ignorance, or mere errors of education. They are excluded only by their own fault. The essential thing is that they should have a religion of some kind, and live according to it; and to acknowledge God, and refrain from doing evil because it is sin against Him, are the two things that make a religion.

Those outside of the Christian world, if they have shunned evils as sins; and even those wholly ignorant of God—the heathen—if they have lived a moral life according to their lights, find a place in this great heaven—the place for which they are prepared and in which they realize to the utmost their own measure of heavenly joy, the highest of which their hearts are capable. Whether it be much or little they can bear no higher. And not even the good of all the religions of this earth can be sufficient to meet its demands, or fulfil its purposes. It looks also to other earths for its supplies. Contingents from different earths constitute different provinces, for it is foreseen and provided from eternity that all may be parts of this most perfectly constructed whole. The one worthy and sufficient home of happiness for men must be derived from the "entire human race" and be constituted of all who, since the creation, have striven

> "After a life more true and fair."

Swedenborg happily estimates the number of those who have thus striven as very great. His science leads to optimism. The heaven formed from the inhabitants of this earth alone is immense. And yet it can be but a small part of the total, for all the planets visible to the eye in our

solar system are earths, and beside these there are innumerable other earths in the universe, all full of inhabitants; and the universe was created for no other purpose or end than the existence of the human race, and of a heaven from it. Wherever there is an earth there are men. No rational man can think that a starry universe so immense could have been made for the inhabitants of one earth only. "What would this be for a Divine Being who is infinite?" And that he may more fully and firmly impress this point upon us, even from a purely naturalistic point of view, he calculates that "if there were a million earths in the universe, and three hundred millions of men on every earth, and if two hundred generations succeeded each other in six thousand years, and a space of three cubic ells were allowed to every man, the total number would not fill the space of this earth, and indeed would occupy little more than the space occupied by a satellite of one of the planets; a space in the universe so small as to be almost invisible" (*H. H.*, 417).

But let it not be supposed that a mere impression of vastness is all that this seer of the infinite is seeking to convey. The thought of the number and extent of the particulars that enter into the least of created things can only bewilder and dismay the mind that is not established in its universal form. There is nothing to be gained from any mere impression of indefinite extent. It is the definite idea that makes the achievements of thought possible. Here, then, is a conception offered to the mind so far-reaching in its scope as to be practically boundless, and yet so clearly defined in its character as to come within the compass, in some degree at least, of the simplest intelligence. Around this limitless thing, paradoxical as it may seem, has been drawn at the very outset a line, and by this line it becomes a subject of finite comprehension and inquiry. The intelligence of angels is from it. In the light of it other truths enter distinctly and clearly into their ideas (*H. H.*, 59). It is no region of "mere emotional vagueness or stagnancy of adoration" to which it introduces, or through whose labyrinths it leads; it is a region of structural laws. Its form is to be seen reflected in the common things of earth. It finds its perfect miniature in men themselves. It is the "Maximus Homo."

In the popular imagination heaven is in one place—a kind of extended plane—where all who have been permitted to enter are assembled and are engaged in one monotonous and eternal occupation of playing harps and offering praises before

the throne of God. Such, at least, has been the accepted picture in the past. But the revelation of a consistent "realm of law" and of "definite progress" changes the picture at every point. The "Maximus Homo," we are assured, is composed of societies, or groups of angels occupying places, some above and some beneath, some within and some without, precisely as the various organs of the human body are placed. These societies correspond to such organs, and consist of those who are in the exercise of such uses. They are quite distinct from one another, and yet so related as to be in communication. Their arrangement, in short, is such as to admit of their co-operation in act, as one man, a result which could not be obtained if the distinctions of the "body" were not observed. Communication, we are told, is effected not by any intermingling of group with group, but by an extension of the sphere which goes forth from the life of each. Those who occupy a central position have, as might be expected, the widest sphere and exercise the greatest influence; their personality is diffused throughout the whole, and in this way all are said to be in each, and each in all, while remaining distinctly themselves. As this is the established and invariable order of the parts in every society, as well as of the societies themselves as parts of the greater whole, the propriety of their being named after the particular parts or functions of the body to which they correspond, is apparent. "The angels know in what member this or that society is. This society, they say, is in a certain part or province of the head; that, of the breast, and so on." The correspondence may be traced not only in a general way, but in detail; there are those that correspond to each constituent of the heart, lungs, organs of sense, bones, nerves, glands, arteries, flesh, skin and hair; all have separate places and functions to fulfil in relation to the whole, and each derives its life from the Lord, through the heavens, and subsists thence by the continual communication of spheres.

It is solely by virtue of this form and communication that heaven, notwithstanding its immensity and the widely varied elements that compose it, is ruled by the Lord as a single man is ruled, that is, as a whole. For a man consists of an innumerable variety of things, of members within members and parts within parts, and still acts as one. This is from the perfection of the order in which he is. He lifts his hand not merely from the power of the hand, or its individual willingness to be lifted, but from the concurrence of the whole body acting under the direction of the mind. In the

effort of walking it is not the feet only that are concerned; but they, in the exercise of their distinctive function, lend themselves to a movement of the whole. The entire man is thus implicated in every action. "And the eye cannot say to the hand, I have no need of thee; nor the head to the feet, I have no need of you . . . And whether one member suffer, all the members suffer with it." Nor can anything be included in this form, whether with respect to the universal heaven or its image in a single man, which is not of use to the whole; nor can the whole be maintained as a whole except it be of use to the parts. There is an unbreakable covenant of mutual services throughout. "Any one who wants to live or act his own life cannot be in the Grand Man . . . but expels himself" (*S. D.*, 3419). And again, "Those not initiated to act in a society are not in the Grand Man" (*S. D.*, 3041). It is by our associations we are prepared to enter it; no man can be saved or be in heaven by himself. And just as, according to Lowell,

> "No man is born into the world whose work
> Is not born with him,"

so, according to Swedenborg, no man is born into heaven whose work is not born with him there. For to be in a society is to be in a function, that is, in the efficient performance of a particular use upon which the welfare of the whole depends. The conception is at once the simplest and the most profound that can engage the attention of the mind. Expressed in suitable words, it might appeal to the lively and uncorrupted imagination of a child, and yet in the complexity of things involved, it is beyond the comprehension even of the most instructed among the angels. It is such in fact that it can never be completely known, except to the Infinite Mind itself. Difficulties in the way of its understanding by the finite natural mind may be expected. They arise chiefly from the disposition of that mind to confuse the idea of essential form with instrumental shape. When the human form is spoken of it is quite natural that an idea of the shape in which it is expressed in matter should immediately present itself and take possession of the mind. For the two are so intimately connected as to appear one. The shape of the instrumental material body corresponds to the form from which it exists. But there are no spiritual "shapes," properly speaking. The idea of shape is that of a limitation in space—the limitation demanded by

the exigencies of a material world. It is clear, however, that as a man is a man not from the form of his body but from his mind, the form of the mind may be regarded as the more truly and characteristically human of the two—that, in fact, it is human in a prior sense. It is the cause of which the other is merely the effect. "The material form which is added and superinduced in the world is not the human form of itself." It is a derivation from that form. A man is a man because he can understand what is true, and will what is good, and the earthly body is only an addendum or instrumentality by which he may perform uses on the material plane. In these uses his understanding of what is true and his will of what is good find their expression; and it may hence be said of them that they also are in the human form, for whatever a man does has relation to his life as a man, and is according to the form of that life. His religion takes that form because it has relation to his life. His good takes that form for the same reason. It is a personal thing. Even the abstract idea of a virtue is the idea of what is proper to a person; it follows in the mind the lines of human conduct; it appears, that is to say, as a man —as one who is virtuous. The ideas of justice, mercy, humility, faith are not the ideas of abstract things, nor of things indefinite. They are not to be met with floating about in the atmosphere as vapours; nor do they present themselves as the characteristic properties of any earthly substance. They are personal things. They may find, it is true, a dim reflection of themselves—visible to the eye of the poet—in vegetable, and more in animal life. They show faintly in these, as in a mirror, when the face that looks into their reflective surfaces is human. But their own native and abiding dwelling-place is always and only to be found in man. Not only are they capable of having such a form impressed upon them, or of being compressed within its limits, but they are themselves the very lines of that form. In departing from these the man is spiritually deformed. So also the idea of love, of which our poets for ages have sung, to which temples have been erected and worship offered by every kindred and tongue and people and nation; which is held to be "an attribute to God Himself," nay, more than attribute, the very essence of His being, and which has been presented to this Congress as the "Ultimate Reality," is the idea of that which looks at us through human eyes and thrills us with the touch of a human hand, and has no purer form, no completer shape, in which it may be

recognized. In its highest manifestation it is the personal thing—never the impersonal. It is the man himself. Its form is human. It humanizes all it touches. It makes many into the form of one, being itself in that form. It is the "Maximus Homo."

Difficulties arise from the natural disposition to think of spiritual things from an idea of what is material. This, of course, is the fatal disposition of the materialistic mind. To begin thus, is to begin in a *cul-de-sac*. The mind can travel no farther in that direction. And this not merely because of the confusion of planes involved, but because of the peculiar function of matter. Material things are given to serve spiritual needs by providing a termination for thought—a place on which thinking may rest, acquire something of fixity, and thence return to its own plane. Thought, being in itself spiritual, begins on the plane of the spirit and only descends to the earth as a bird from the air, to satisfy a temporary need. The order of its proceeding is from spiritual, by natural, to spiritual. We begin to think of nature or of any natural phenomenon not from itself, but from an idea of that of which it is the appearing. The real starting-point of one's thought of a tree, for instance, is the idea of what the tree stands for, or of what may appear in it—a purely mental thing. It may be quite a childish idea, to begin with; and, if so, the proceeding thought is childlike; there is very little development in it. But the idea, as we find, grows with the growth of the mind; it takes a maturer form, and the thought of the tree ceases to be that of a child; it becomes the thought of a man, and finds everywhere a reflection of itself—an analogy, as we call it—in all the things of nature. Even the tree is now a man; this is what it has been standing for; the thing to which it corresponds. To think from this is to think as the angel does—comparatively, indeed, as God may be supposed to think. It is to follow the true and only progressive line of thought from the universal to the particular, and from the centre to the circumference. As a ball will rebound from a wall against which it has been thrown, so a thought may rebound from its contact with material things; but just as no wall is capable of first throwing the ball, so no material thing is capable of giving the first impulse to the thought.

The recognition of this principle of order with respect to thought is essential to the comprehension of our subject. To think progressively of the human form is to remember that the true constituents of a man only terminate in what

is material, as the spiritual world terminates in nature, and that it would be as reasonable to expect to determine the quality of the friendship expressed in a letter from an idea of the shape of the characters or the composition of the ink employed in writing it, as to discover the form of the universal heaven in the mere shape of the frame that serves the purposes of life in this world. Nevertheless, there is a relation, and a plenary correspondence between the two. The purposes of life, wherever it may be lived, are the same, and they are the purposes of heaven. They are responsible for every bone and sinew, every nerve and tissue in the instrumental structure; yea, every single corpuscle, and constituent of a corpuscle, in the blood. There is nothing included which does not owe its existence to that universal of purpose of which it is a particular expression; and nothing which does not perform a use to the whole. And as the purpose is the realization of the common good, the common good can be neither more nor less than the fulfilment of its form. It is the embodiment of the principle of "All for each, and each for all." This is the order of heaven; and whether we say the order of heaven or the form of heaven it amounts to the same, because "the form of everything is derived from and in harmony with its order."

The Grand Man of heaven, which finds a place for the good not only of every religion and nation on the earth, but of all the earths in the starry universe, may therefore be thought of clearly, definitely, and progressively, as the fulfilment of the order of the ideal human life, which in its essence is the Divine Life, proceeding from the Divine Human of the Lord. He is the All in all; and hence it follows that "in the supreme sense the 'Maximus Homo' is the Lord alone" (*A. C.*, 3637). This is the requisite universal of angelic thought, which enters into every particular and forms it all into its own likeness. By this the angelic mind is led continually on in its search into the inexhaustible things of life. It is a conception that can never become full, any more than the heaven of heavens can become full, but, like it, must continually reach out and be perfected to eternity. Its perfection is in its capacity for endless increase.

As we seek to follow it to its ultimate issues in our own affairs, it spreads out from us in successive circles of thought like the concentric rings produced by the dropping of the stone in the still bosom of the lake, suggestively described by Pope in words which may fittingly bring this paper to a close:—

"The centre moved, a circle straight succeeds,
Another still and still another spreads;
Friend, parent, neighbour first it will embrace,
His country next, and next all human race;
Wide and more wide the o'erflowings of the mind
Take every creature in of every kind.
Earth smiles around, with boundless bounty blest
And heaven beholds its image in his breast."

SWEDENBORG'S DOCTRINE OF USES

By the Rev. Louis G. Hoeck, Cincinnati, Ohio.

This doctrine is one of the most comprehensive taught in the writings of Emanuel Swedenborg. There is no form of life that is not in some way related to it; for all things created by the Lord from highest to lowest, from firsts to lasts, are forms of uses: they were created "from use, in use, and for use" (*A. E.*, 1194).

It were impossible in a short essay to present fully all the aspects given in Swedenborg's writings. Probably it will be more satisfactory, then, to confine our attention to a brief outline of the most important of them, first in relation to creation, and, secondly, in relation to man.

I. 1. First, in its relation to creation, the doctrine of uses provides the key that unlocks the mysteries of the great system of correspondences in nature. If we would know the spiritual counterpart of any phenomenon or object in nature we must learn its use. The influx of life from the Lord into the universe "takes place into uses, and from these into the forms of them" (*D. Wis.*, XII. 5). "The universe has been created by God that uses might come into existence, and therefore the universe may be called a theatre of uses" (*T. C. R.*, 67). To know the use explains the form, and the form also indicates in all its details the nature of the use. This was one of the great principles by which Swedenborg was guided in his search after the soul in its kingdom—the human body—and in other studies. It led him to very wonderful deductions, which are of great value in understanding the realm of nature as a "theatre of uses." But he did not behold the breadth and depth of the principle until his spiritual sight was opened, and he formulated it as the doctrine of correspondence.

Speaking of the human body in *Heaven and Hell*, no. 96,

he says, "the influx of heaven is into the functions and uses of its members, and the uses because they are from the spiritual world form themselves by such things as are in the natural world, and set themselves forth in effect. Hence is correspondence." Further, "the use existed before the organic forms of the body came forth; and the use produced and adapted them to itself, and not the converse. But when the forms have been produced or the organs adapted, the uses proceed from them; and then it appears as if the forms or organs exist before the uses, when yet it is not so; for use inflows from the Lord and this through heaven according to the order and form according to which heaven has been ordinated by the Lord—thus according to correspondence" (*A. C.*, 4223).

I. 2. Yet further, the application of the doctrine of uses to all things in nature displays a correspondence with those things which are in man. Man is thus seen to be "in little all the sphere." Man is a microcosm, or little universe. Comparative embryology and the facts of Evolution undoubtedly prove this on the merely physical plane. But the science of correspondence and doctrine of uses display a much closer relationship between nature and man on a higher plane. As Swedenborg says: "In all forms of uses there is an image of man. All uses from firsts to outmosts, and from outmosts to firsts, have relation to all things of man and have correspondence with them; consequently man is in an image a universe, and conversely, the universe viewed as to uses is in image a man" (*D. L. W.*, 317). This doctrine is capable of infinite exemplification. Its application to the Word of God is also of the greatest significance, for the objects therein mentioned must be understood as having a direct reference to man. Take the use signified by the word—that is, its correspondence—apply it to man, and the life's lessons become evident.

I. 3. Again, the doctrine of uses furnishes a rational explanation of Swedenborg's abstract doctrine of discrete degrees. The doctrines of influx and correspondence already referred to likewise throw much light on this complex doctrine of discrete degrees. This latter doctrine may be thus briefly defined: "In everything of which anything can be predicated there is a trine, which is called end, cause and effect; and these three are related to one another according to degrees of height," that is, discrete degrees (*D. L. W.*, 209). The end is in a degree by itself prior to and separate from the cause, and the cause is also in a degree discrete or

separate by itself from the effect. The effect again is discrete or separated from either end or cause, but yet contains both within it. The doctrine of uses explains this, inasmuch as "all effects whatever are representative of the uses which are the causes; and the uses are representative of the ends which are their first principles" (*A. C.*, 1807). "Every point in creation, and in things created, is a use; yea, it is in an ascending series from use in first things to use in those that are last; thus from use to use continually" (*D. Love*, VIII). Thus we follow the chain of uses from effects through causes to ends link by link even to the First Cause which is in the Lord, and we find use in evidence everywhere. According to the use so is the degree lower or higher in the series.

The general order of this great sequence of uses is given in *Divine Love and Wisdom* (327 *et seq.*). "All things created from the Lord are uses; they are uses in the order, degree and respect in which they have relation to man, and through man to the Lord from whom they are." There are uses for sustaining the body—all things in the earth; there are uses for perfecting the rational—every branch of study; and there are uses for receiving the spiritual from the Lord—everything of worship and religion. These present uses in an ascending scale which, when recognized in their organic relation to each other, explains the sequence of causes and ends, even to the highest end which is in the Lord's love. For "life, which is the Divine love, is a form of use in its whole complex" (*D. Love*, III, IV).

I. 4. In this world, however, we meet with many things that cannot have had their origin in the Divine love, "all evil things that have existence in act," all noxious things in both the animal and vegetable kingdom, as also in the mineral kingdom. These Swedenborg calls "evil uses, because they are of use to the evil in doing evil, and also are serviceable in absorbing malignities, and thus as remedies" (*D. L. W.*, 337). These things "did not derive their origin from the Lord and were not created from the beginning, neither did they spring from nature through her sun, but are from hell" (*Ibid.* 339).

I. 5. Now we may glance at the forms of uses as a whole, or in their orderly relation to each other. By influx from the Lord all things were created from firsts to lasts. They proceed in progressive succession from the sun of the spiritual world through its atmospheres to the sun of this world and its atmospheres, becoming continuously more and more con-

densed and less active, until we reach water, and finally the solid earth, which is the last reactive agent in creation. In the earth we have matter that is inert and fixed, but which retains within it, from the atmospheres from which it originated, an effort and conatus to bring forth uses (*D. L. W.*, 302, 303). In the sun of the spiritual world and its atmospheres, the sun of this world and its atmospheres, and the earth, we have a wonderful and complete series of means toward an end which is a great system of uses beginning with the mineral kingdom, proceeding through the vegetable kingdom and the animal kingdom to the human race, and thence to an angelic heaven from mankind, and thus back again to the Lord. Thus there is a descent from the Lord, who is Life itself, through suns and atmospheres to solid matter, and thence back again through forms of uses from lowest to highest until, through man's conjunction with the Lord, the chain of life is completed. And this circle of life is progressing perpetually; it is a perpetual spiral. We see it imaged in the starry spheres, in the orbital and axillary motion of the planets. It is evident to the senses in the formation of clouds, the rain, the flowing stream, the ocean, and the return to cloudland. It is again apparent in the seed, the tree, the leaf, the blossom, flower, fruit, and again the seed within the fruit. Yea, the perpetual spiral is everywhere in evidence in the reproductive processes of nature. In the least and in the greatest forms of uses it is one and the same. The spiral of life is perpetual because He from whom it derives its existence is in perpetual activity.

II. 1. Thus far we have briefly traced the doctrine of uses from without, or in relation to creation, thus more as something abstract than as a practical doctrine. Swedenborg's teaching regarding it, however, has an intensely practical and personal side. He says that "uses are nothing but works for the neighbour, our country, the church, the Lord's Kingdom" (*A. C.*, 6073). "To do truths is to perform uses" (*D. L. W.*, 251). "Angelic life consists in uses" (*A. C.*, 454). "The more eminent the use the greater the delight" (*A. C.*, 997). "All knowledge must have use as an end. Unless men are learned for the sake of a life of uses, they are of no moment, because of no use" (*A. C.*, 1964). "It is use through which the Lord is principally worshipped" (*A. C.*, 7038). "To live for others is to do uses" (*C. L.*, 18). "The essence of uses is the public good" (*A. E.*, 1226). "In the spiritual sense use is the neighbour" (*A. E.*, 1193).

II. 2. Swedenborg makes a distinction between uses which are done from self and those done from the love of the Lord. When any one performs uses for himself alone, for his own honour or reputation, or for wealth or selfish pleasure, these uses appear outwardly exactly the same as when they are done from the love of use, the love of the neighbour, or the love of the Lord. No one can tell the difference. The angels, and the Lord, however, can clearly detect it. Uses done for the sake of selfish benefit are of value to others, but of no value to self. Works of themselves do not save, but the pure unselfish affection for use (*D. Love*, XVII). Man may have this affection too without performing uses outwardly. He may be in evils which injure others, but strive to overcome all tendencies to evil and do good in the Lord's name.

II. 3. A remarkable characteristic of the useful life is that "man does not feel and perceive the love of doing uses for the sake of uses, as he does the love of doing uses for the sake of self; and therefore while he is doing uses, he does not know whether he is doing them for the sake of the uses or for the sake of self" (*D. L. W.*, 426). This for the reason that "there is more of the fire and ardour of doing uses in the love of self and of the world than in those who are not in these loves" (*D. P.*, 215). Wherever there is much money to be gained, or a great reputation to be earned, there is the incentive to be useful, but to think first of the reward and second of the use.

It is of prime importance that every one should know whether he is influenced by the selfish or unselfish love of use, for note the distinction between the two when viewed from within. With those who regard themselves in their useful works, "they themselves are the head; the world is the body; church, country, and fellow citizens are the soles of the feet; and God is the shoe. But with those that perform uses from the love of uses, the Lord is the head; church, country and citizens, are the body down to the knees; and the world is the feet, from the knees to the soles; and they themselves are the soles beautifully shod" (*D. Love*, XIV). How then shall we know to which class we belong? Swedenborg answers "that man is doing uses for the sake of uses in proportion as he is shunning evils as sins; for in proportion as any one is shunning these, in the same proportion he is doing uses, not from himself, but from the Lord" (*D. L. W.*, 426). In other words, the reversal of our nature is effected by making the last first, and the first last.

II. 4. Swedenborg designates those uses done for selfish ends "evil or infernal uses," and only those uses which have an unselfish purpose through shunning evils as sins "heavenly uses" (*A. E.*, 1193). In the former category we may also include all evil actions, actions in violation of the commandments. For no evil is permitted except in so far as it is for man's eternal good. "The wrath of man shall praise Thee, the remainder of wrath Thou wilt restrain." Thus good comes out of evil (*D. P.*, 275 *et seq.*). The good which results from the permission of evil—and thus justifies its permission—is a use; for "all good, regarded in itself, is nothing but use" (*A. C.*, 4926).

II. 5. As for those who are in hell, even they cannot live without performing uses. No idle person is tolerated in hell. Those there are compelled to do "good work" (*Doct. of Charity*, 98), otherwise they receive no food or clothing (*A. E.*, 1194, 1126; *L. J.*, post. 230). We have something to learn from these revealed facts, something to labour for in this world. For "in a well-constituted commonwealth provision is made that no one shall be useless, and if useless he is compelled to some work; and a beggar is compelled if he is in health" (*Doct. of Charity*, 77).

II. 6. The uses men perform are not all of equal value. In determining their excellence two elements must be considered, first, the nature of the use itself; and second, the neighbour for whom it is performed. Some uses are in themselves trivial, we might say menial, like those of "the hewers of wood and drawers of water," while others are dignified and exalted, as those performed by judges. Yet again, the neighbour for whom the service is rendered differentiates its value. The Church is neighbour in a higher degree than one's country, because the latter only introduces man into civil life, while the former introduces him into spiritual life (*T. C. R.*, 415). Therefore the best of uses are those done for the sake of use to the church (*A. E.*, 975). Next in the order of excellence come those uses done for the human race, our native country, the state, the municipality, societies according to their objects, the household, and finally individual friends or strangers. We ought to perform uses to our neighbour in the restricted and wider senses according to the good in him. It is a high honour to die for the good of one's country when its welfare is seriously threatened by any form of social evil (*T. C. R.*, 414). The sacrifice of life for the good of the many is a greater use than its sacrifice for any individual. Yet here again, in the sight of the Lord,

the motive for all sacrifice of energy or life plays the most important part in the act of service, great or small.

II. 7. Swedenborg gives more prominence to the mainspring of all actions—good or evil—than to anything else. For if the motive is right, the action will be right, or must in time be made right. He is insistent upon the necessity of keeping the commandments in our daily occupations. Here is the chief sphere of performing uses. As he says, "Christian charity with every one consists in his doing faithfully the duties of his calling; for thus, if he shuns evils as sins, he daily does good, and is himself his own particular use in the common body. Thus also the common good is provided for, and that of each individual in particular" (*Doct. of Life*, 114). He refers to other uses as general uses—such as the education of children in the home, household economy, contributing to the support of the Church, paying taxes, aiding in the building or the maintenance of orphanages, hospitals, etc., and in relieving the distressed or poverty-stricken (*D. Wis.* XI; *T. C. R.*, 429–432). He also includes all innocent forms of recreation as uses because they "divert the mind from the works of its calling," give it a rest, and thus revive and restore it for better service. But the diversions or recreations are different for those who strive to observe the statutes of the Lord in their daily life and for those who work for their private gain or reputation. With the former only the diversions are true uses, "for the Lord flows into them from heaven and renews; and He also gives an interior sense of pleasure in them which they who are not in the affection of charity know nothing of." He breathes into them, as it were, a fragrance or sweetness perceptible only to themselves (*Doct. of Charity*, XI).

II. 8. Swedenborg gives a remarkable *résumé* of the doctrine of uses in *Conjugial Love* in the following words: "To live for others is to do uses. Uses are the bonds of society which are as many in number as there are good uses; and uses are infinite in number. (1) There are spiritual uses which are of love to God and of love toward the neighbour; (2) there are moral and civil uses which are of the love of the country and the state in which the man is, and of the companions and citizens with whom he is; (3) there are natural uses, which are of the love of the world and its necessaries; and (4) there are bodily uses which are of the love of the preservation of self for the sake of the higher uses. All these uses have been inscribed on man, and follow in order one after the other. They who are in the first uses, which

are spiritual, are also in all the succeeding ones, and these are wise. But they who are not in the first uses, and yet are in the second and thence in the sẽquent ones, are not so wise, but only appear to be so by virtue of an external morality and civility. Those who are neither in the first nor second uses, but are in the third and fourth, are not at all wise ; for they are satans, loving only the world and themselves for the sake of the world. And they who are solely in the fourth uses are least wise of all, for they are devils, because they live for themselves alone, and if for others it is only for the sake of themselves" (no. 18).

II. 9. But further we learn from Swedenborg that all uses are co-ordinated or bound together in one. In a certain sense we recognize the truth of this when we reflect upon the interdependence of all workers in the social organism. The evil doing of one, moreover, affects all the others in the community. The useless are a burden to all. It is, however, in a deeper sense that all true uses, and they who perform them, are regarded as a unit in the Lord's sight. This is the great doctrine of the "Maximus Homo." The doctrine of uses helps us to understand it better than any other.

"In the Lord's view the whole human race is as one man ; all in a kingdom are also as one man ; likewise all in a province, all in a city and all in a household. It is not the men themselves that are thus seen together, but the uses in them. They that are good uses, that is, they that perform good uses from the Lord, when viewed together are seen as a man, perfect in form and beautiful. But they that perform uses not for the sake of uses, but for the sake of themselves alone or the world alone, likewise appear before the Lord as one man, but as an imperfect and deformed man" (*D. Love*, 6)

"The reason so many various things in man act as one is that there is not anything therein which does not do something for the common weal and perform use. The whole performs use to its parts, and the parts perform use to the whole ; for the whole is from the parts, and the parts constitute the whole. Thus they provide for each other, they have respect to each other, and are conjoined in such a form that all and each have reference to the whole and its good. Hence it is that they act as one. Similar are the consociations in the heavens ; they are conjoined there according to uses in a like form. Therefore those who do not perform use to the whole are cast out of heaven, because they are things heterogeneous. To perform uses is to will

well to others for the sake of the common good; and not to perform uses is to will well to others not for the sake of the common good, but for the sake of self. The latter are those who love themselves above all things; but the former are those who love the Lord above all things. Hence it is that they who are in heaven act as one, and this not from themselves, but from the Lord; for they regard Him as the only one from whom all things are, and His kingdom as the whole which is to be provided for" (*H. H.*, 64). In this way all who work for the Lord work for one another, and are so directed in their work that they act as one man. Some are in the head, some in the heart, some purify the blood of the nation, cleanse the thoughts of men from all impurities, while many are subordinates, and act as hands and feet. "The whole heaven resembles one man." Likewise all good men on earth who love the Lord are seen in the same human form.

SUMMATION.—Finally, we turn to the most precious and significant feature of this great doctrine of uses as presented in the writings of Swedenborg, the conclusion drawn from all that has already been said about it, namely, the proof which it gives that the Lord, the Creator of the universe, is a Man. This doctrine of uses probably furnishes the very strongest rational proof that God is in the Human Form, is Very Man indeed. If we see that the macrocosm—every thing in nature, when regarded as to uses, is merely a reflection on a larger scale of the microcosm—man; and, if we recognize, further, that all good men, as to their functions and uses in relation to each other are but man on a larger scale, then the conclusion is irresistible that God, the Creator of all, is a Man. It matters not that we are unable to trace the use of all things in the universe and tell their counterpart in man. It signifies little that we are unable to group the multiform uses of men in, say, any given nation, and behold all working as one great unit. It is sufficient to be assured from innumerable instances that nothing exists without a use. It is enough that we have tested the truth that all uses in nature are represented in man from many instances, particularly from the Word of God. And although we cannot see the commonwealth as a unit, as one man, we can safely conclude that it must be so from a clear perception of the human form in a lesser organism—a small corporate body or a household. "We are all members of one body."

We should no more think of questioning these great universal truths because we cannot verify them in every

particular instance than we should presume to doubt the law of gravitation because we are unable to ratify its action throughout the whole stellar region. The fact is, we can prove the existence of this law in only an infinitesimal portion of the heavens. Yet all calculations in astronomy are based upon it, and no one doubts its infallibility, or is ever likely to doubt it. Even so, Swedenborg reveals to us the perfect law of creation from firsts to lasts, and from lasts to the First Cause—the law of use. It is the only law that furnishes an adequate and satisfactory explanation of the universe, and unifies all things and all men. And this doctrine forces us to the final conviction that the Creator, the source of all life, is One and that He must be in the Human Form, for that is the form of Use Itself.

The CHAIRMAN: I now vacate the chair in favour of our beloved President, who will make his final remarks and close the Congress.

The PRESIDENT: I confess that it is not without a melancholy feeling that I take this chair for the last time. I have been asked by the Committee to say something about the changed attitude of the public towards Swedenborg. This is a very difficult and a very complex question. But we may at least say, that, judging by utterances of speakers on platforms and writers of newspaper and magazine articles, there has been a great and gratifying change during the last fifty years. Those of us who are old enough to remember the manner in which Swedenborg was often talked about then, must have been very much struck with this; we no longer hear him spoken of as a man who ought to have been under restraint, an impostor, or a visionary. Such estimates were quite common when I was a boy, and although prejudice and ignorance on the subject have not disappeared, such statements as these are now rare. In proof of this changed attitude, I may call your attention to the articles in the newspapers and the speeches delivered on the occasion of the removal of Swedenborg's remains to his native country, which nearly all spoke respectfully both of him and his writings. There was a recognition and even some appreciation of what he had done. The remark is often made by people who for the first time read the Creed of the New Church, "That is just what I believe." I remember no time when I have had so many requests, from men of all sorts, for information as to what Swedenborg taught as I have at present; and whenever I try to give them

in a simple manner an outline of his views they nearly always say the same thing. A very distinguished clergyman asked me not long ago for such an account, and after listening to it said, "Those views might be preached in any pulpit of the Established Church." I do not think any one in his position would have said so fifty years ago. How often do you hear it said now that the material body of man will rise again? When do you hear it said that to appease the wrath of God, the Almighty Father, an innocent Son came to suffer and die? But you do hear it frequently said that the Incarnation and Atonement were works of love. The idea of Heaven as a place of continual prayer and praise has changed; and I might refer to other important changes of this kind. Something was said to-day about the Last Judgment in 1757. There has been not only an indirect but also a direct spiritual influence on humanity consequent on the momentous changes described in Swedenborg's work on the subject. Scarcely less striking are the modifications of opinion with respect to Swedenborg in other spheres. Take literature, for instance; look at the magazines. How very often you find references of a most respectful kind to him and his writings, and never with an apology; never as it used to be, "his authority I hesitate to quote, but I do find this," etc. No, they speak of him as they might of Shakespeare or any other great writer. In times past there have been great men who spoke respectfully of Swedenborg and adopted some of his teachings, but certainly not so many as there are to-day. Then the indirect influence of Swedenborg has been very great. Look at Tennyson's great poem "In Memoriam"—and others I might mention—writings rich in New Church teaching, of a kind you do not find in Milton and others before him. The change is due to two main causes. One a more powerful influx from the spiritual world since the Last Judgment, and the other from the direct and indirect diffusion of Swedenborg's teachings. Robert and Elizabeth Browning have given us literature influenced directly by Swedenborg. I was very glad to hear the Rev. Julian K. Smyth refer to Carlyle. There is perhaps no more striking example of a change of attitude with regard to Swedenborg than in the different views taken of him by Thomas Carlyle at different periods. Many of us were troubled many years ago by the contemptuous manner in which Swedenborg was referred to in Carlyle's Essay on Cagliostro, written in 1833. But this, as he admitted afterwards, was because he then knew nothing, or next to

nothing, of Swedenborg. "I have been wont to picture him," said Carlyle, writing of Swedenborg to Dr. Wilkinson, "as an amiable but inane visionary . . . from whom nothing at all was to be learnt. But I have been rebuked already. A little book by one Sampson Reed, of Boston, in New England, which some friend sent hither, taught me that a Swedenborgian might have thoughts of the deepest kind; that, in short, I did not know Swedenborg, and ought to be ready to know him." At a much later period, writing to a New Church lady, who had expressed regret to him about his reference to Swedenborg in his Essay on Cagliostro, Carlyle said: "I have since made some personal acquaintance with the man; read several of his books, what biographies of him could be heard of, and have reflected for myself on the singular appearance he makes in the world, and the notable message he was sent to deliver to his fellow-creatures in that epoch. A man of great and indisputable cultivation, strong mathematical intellect, and the most pious, seraphic turn of mind —a man beautiful, lovable, and tragical to me, with many thoughts in him, which, when I interpret them for myself, I find belong to the high and perennial in human thought." I might refer to many other examples of a sympathetic attitude on the part of theologians and men of letters in illustration of the increasing regard and respect which is shown for Swedenborg; and surely I may say that the present Congress has offered abundant evidence of the honour with which he is regarded by the modern world of science.

You will, I hope, pardon me if, before sitting down, I say a few words about our Congress. I think I may confidently say it has fulfilled hopes and expectations of the highest and most sanguine kind. We have had many remarkable and important addresses. We have heard the life of Swedenborg sketched with interest and fairness, though not of course with fulness. We have had the great satisfaction of hearing men of science testify to the fact that Swedenborg was in some important respects greatly in advance of his times. We have heard from Dr. Sewall and others how very nearly Swedenborg approximated in his early investigations and inquiries to his revelations of Divine philosophy; but that there was an essential difference between Swedenborg the scientist and Swedenborg the illuminated seer. We have heard to-day, how the meaning and mystery of the Lord's creation of man and the universe was revealed to him. We have heard the doctrine concerning the Lord and His Incarnation put before us in plain and luminous

language which I am sure we shall not forget. We have heard the nature of Swedenborg's illumination and its practical character described with the grace of an orator and in language of great force and beauty. While there have been explanations and statements made that appeal to the intellect, for my part I rejoice to think that the last subject that engaged the attention of the Congress was the most practical of all, the duty of man, the life of man, the life of uses, and the difference between use that is merely external, and use that is the outcome of obedience to the Lord's commands.

The Congress has also had this great advantage—that it has brought together men hitherto only known to each other by name who henceforward will remember each other with esteem and affection. We have met in a sense to do honour to Swedenborg, but the best homage we can pay him is to endeavour to lay to heart the lesson of his life, who called himself the servant of the Lord Jesus. You will forgive me if I make some reference of a personal kind to the labours of those valiant and industrious men without whom we should not have been here to-day. The pleasure of having met again many old friends from America and elsewhere has been a very happy feature of this Congress. I also think with delight of the pleasure we have had in seeing the sons of Sweden on this platform, men of renown, men whose very appearance is commanding, men who could speak of Swedenborg as their countryman. It is pleasant to think we have had so many nations represented. But this gathering could not have been brought about without the labours of our energetic and devoted friends in London. I feel that we owe a great debt of gratitude to the Committee of the Swedenborg Society. Where should we have been this week without the labours of Mr. David Wynter and Mr. Gardiner? And there is another name, which goes over all the world on the title-pages of New Church works, a name very well known, and through more than one generation of his family—I mean Mr. James Speirs. Their work, known but unseen, has been far greater than any of us can understand. Those who have corresponded with them know something of what they have had to do. It must be to them an immense satisfaction that we have had four or five days of such unparalleled success.

I am certain that their chief desire will be that we shall leave this Congress having more respect for Swedenborg, more determination to study his works, and most of all to

govern our lives by the great lessons that he, through the blessing of the Lord Jesus Christ his Master, was enabled to convey to us.

The Rev. SAMUEL S. SEWARD: I should like before we separate to recall to your memory one person who has been omitted in the remarks made by our President, that is Mr. Edward John Broadfield, the President. In accordance with what I believe is an almost universal English custom, I move a vote of thanks to him for his services and for his helpfulness, asking you to express your approval of it in the usual method by acclamation.

The PRESIDENT: This is very disorderly. I do not think it is customary on occasions of this kind, but I am very grateful to you for your indulgence and kindness. I hesitated long, as my friends know, to accept this position, though I was sensible of the honour done to me. It is not for me to speak of my shortcomings. No one knows them better than I do. I could not profess to speak as an expert on any of the subjects included in our proceedings. And that they knew full well that gave me leave to speak to you. I knew it was personal kindness and friendliness on their part that induced the Committee to invite me to preside. I have seen this week so many faces of old friends and heard so many kind words and expressions, that I cannot help being very grateful. I came to the Congress with a feeling of deep anxiety, so deep, indeed, that I am afraid I was not as conscious of the honour conferred upon me as I ought to have been; but every one seemed so happy and everything went on so pleasantly that all anxiety vanished. I feel that the presiding over this Congress has been the greatest honour of my life. I shall never forget the delight of this week, and the kindness of the multitude of my friends.

The Congress then closed.

CONVERSAZIONE ON FRIDAY EVENING

THE final meeting of the members and visitors was of a social nature, and was attended by nearly nine hundred persons. The entertainment consisted of concerted music given by a choir conducted by Mr. Henry Taylor, together with items of vocal and instrumental music by various talented artistes. The President of the Congress, Mr. Broadfield, LL.D., gave an address of congratulation and farewell. The Rev. S. S. Seward replied on behalf of the American friends, while Dr. Andersson and Rev. C. J. N. Manby did so on behalf of Continental visitors. Mr. Wynter and Mr. Gardiner spoke finally on behalf of the Swedenborg Society's Committee.

CONVERSAZIONE, THE FINAL FUNCTION OF THE

ING'S HALL, HOLBORN, FRIDAY, JULY 8TH, 1910

[p. 334

APPENDIX

THE HISTORY OF SWEDENBORG'S MANUSCRIPTS PRESERVED IN THE LIBRARY OF THE ROYAL SWEDISH ACADEMY OF SCIENCES AND OTHER SWEDISH LIBRARIES

By Miss Greta Ekelöf,

Assistant Librarian of the Royal Swedish Academy of Sciences, Stockholm.

The purpose of this paper which I have the honour to present to the Swedenborg Society at its first Congress is to give a condensed account of the Manuscripts of Emanuel Swedenborg which are preserved in the Swedish libraries, especially in the Library of the Royal Swedish Academy of Sciences. Investigations made in Sweden and other countries have shown that, so far as we know, all the manuscript volumes by Swedenborg which are now extant are to be found in his native country. It is true that the British Museum, the Swedenborg Society, and, I dare say, other institutions and also private persons have in their possession original letters and papers by Swedenborg; but the MSS. of his large, fundamental works, those which have made his name celebrated all over the world, are in the Swedish libraries, and for the greater part in the Library of the Royal Swedish Academy of Sciences.

The Swedenborg MSS., however, have not always been so well cared for as they are now. Many of them, including some of the most important theological works, had drifted to various places in Sweden and abroad, and were regarded as lost during long periods, until they were, one after another, unexpectedly restored to the libraries to which they belonged.

The MSS. in Swedenborg's handwriting which are still extant are kept in four different libraries in Sweden: the Library of the Royal Swedish Academy of Sciences, the

Royal Library, the State Archives (Riksarkivet), all in Stockholm, and the Diocesan Library at Linköping; of these the Academy of Sciences possesses the greatest number of volumes—more than eighty—having received at Swedenborg's death in 1772 his MSS. from his heirs.

It is the history of these MSS. of which I intend to give a chronological account, from the time of Swedenborg's death until the present year. The Rev. Dr. Rudolf Tafel gives, it is true, in his "Documents," a detailed description of Swedenborg's MSS. and their history; but his account having been written thirty-five years ago, since which time many new discoveries have been made, I think that a more detailed description of them may be of interest.

Swedenborg's activity as an author extended over a period of seventy-one years. If we study the collection of works that he has left behind him, both published and unpublished, we find in his whole authorship a development corresponding to his own spiritual evolution. After having in his early youth written a few poems and some small works of comparatively little importance, he produced in unbroken succession works on mechanics, mathematics, mineralogy, geology, and cosmology; then he took up anatomy, physiology, philosophy, and psychology, and finally his extensive works on theology.

As early as 1700, when Swedenborg was only twelve years old, he wrote verses; but not until 1716 did his scientific authorship begin, when, in connection with Christopher Polhem and some other learned men, he edited the first scientific periodical published in Sweden, *Dædalus Hyperboreus*. The first MS. in Swedenborg's handwriting that we possess is a collection of scientific treatises, preserved in the Diocesan Library at Linköping. These treatises were probably written between 1716 and 1722, and consist of more than thirty small scientific works. They are kept with the papers of Archbishop Eric Benzelius, Swedenborg's brother-in-law. Many of these works are of high scientific value, and some of them have been printed in the edition of Swedenborg's scientific works, which is being edited by Mr. Alfred H. Stroh, and published under the auspices of the Royal Swedish Academy of Sciences.

During the period extending from 1716 to 1734—in which year Swedenborg published his great work *Opera Philosophica et Mineralia*—he was a prolific writer on scientific subjects, and several of his works written at that time are preserved in manuscript. Many of his writings of this period were printed and published by himself, but we have still among

[*p.* 338

DR. L. E. CALLEJA, OF GUADALAJARA, JOLISCO, MEXICO

the MSS. in the Library of the Academy of Sciences large volumes containing works of great importance, which have not been published. The first volume in Swedenborg's handwriting we find there, is a large codex in quarto, called *Geometrica et Algebraica*. Then follow several other works, and among those preserved in manuscript are the following: "On the Magnet"; "On the Secretion of Silver and Copper"; "On Sulphur and Pyrites"; "On Vitriol," etc., and above all, one of his most valuable works belonging to this period, "The First Principles of Natural Things," written about 1729.

In the year 1719 he produced a work which is preserved in the State Archives, the only systematic work in Swedenborg's handwriting in that library. It is a description of Swedish iron furnaces and the process of smelting iron. The work was presented by Swedenborg to the Royal College of Mines on the 2nd of November, 1719, and has been kept in the library of that body until a few years ago, when it was removed to the State Archives. The Codex is in folio.

We have in our possession from this early period of Swedenborg's authorship three newly-discovered manuscripts, which have not been published until this year. Two of them are preserved in the Royal Library at Stockholm; one containing a "Dialogue between Mechanica and Chymia" was found among the writings of Christopher Polhem in the Royal Library. It is uncertain whether Swedenborg is the author; he might have written it in collaboration with Polhem. The other work contains a new system of arithmetic, using the number 8 instead of 10.

Last year Mr. Alfred H. Stroh discovered another manuscript, in the possession of a Swede, Mr. Jarl Ernberg, of Stockholm, in whose family it had been for about two hundred years. It treats of "The Motion and Position of the Earth and the Planets," and with a few differences is very much like a work with that title published by Swedenborg in 1718. The manuscript has been phototyped for a Festival publication, edited by Mr. Stroh, for the celebration of the Centenary of the Swedenborg Society this year.

There is a large manuscript volume in quarto, written in 1733, containing various papers on philosophy, anatomy, etc., and Swedenborg's journal of travels. This volume he probably began to write in 1733, but continued writing in it for many years, as is evident from the handwriting, which varies very much in different places, and shows that the contents of the manuscript have been written down at different periods of Swedenborg's life. Unfortunately the Codex is

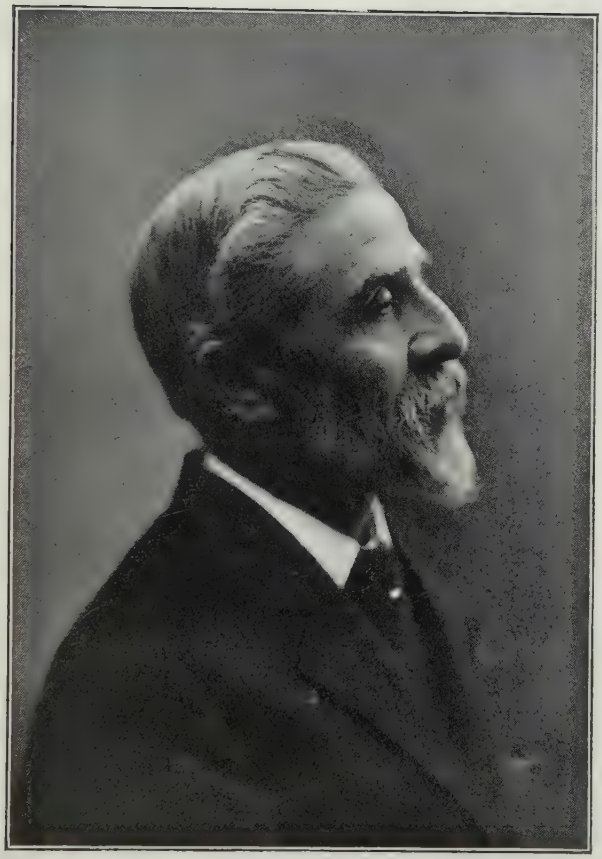
not complete. Parts of it have been torn out, and among these are eight pages, containing a record of Swedenborg's dreams from 1736 to 1740, which are lost.

The next period of Swedenborg's activity as an author falls between 1735 and 1744, during which years he wrote his large anatomical, physiological, and philosophical works. Not less than six large manuscript volumes on anatomy and physiology are preserved in the Library of the Academy of Sciences, which contain works of very great interest. Many of them had never been examined until a few years ago, and were then found to contain works of great importance and value to the anatomists and physiologists of our day. Mr. Stroh began a critical and historical analysis of them in 1902, and, thanks to the generosity of Professor Gustaf Retzius, the volumes have been copied and are to be published by the Academy in its edition of Swedenborg's scientific works.

A very interesting manuscript of Swedenborg, written during this period, is a little book in small octavo, preserved in the Royal Library, usually called "Swedenborg's Dreams." It is Emanuel Swedenborg's private diary for 1743 and 1744. This little book was brought to the Royal Library in 1858 by the librarian, G. E. Klemming. For a long time it had been in the possession of Mr. R. Scheringsson, Professor and Lector at Vesterås. He died in 1849, and the book lay forgotten among his literary possessions for nearly ten years, when it was offered for sale to the Royal Library. How it had come into the hands of Mr. Scheringsson is not known. As he was in his ninetieth year when he died, there is a possibility that he had received the work shortly after Swedenborg's death.

In 1741 Swedenborg wrote his first theological, or perhaps rather psychological work, "A Hieroglyphic Key to Natural and Spiritual Mysteries by way of Representations and Correspondences." A copy of this was made about 1783 and sent to England, where the work was printed the following year.

We now come to the last period of Swedenborg's authorship, extending from 1745 to 1771, during which years he wrote his theological works. Not less than fifteen of these works are preserved in manuscript in the Library of the Academy of Sciences. Many of them consist of several codices, and it is, therefore, an exceedingly valuable collection. Their history in some cases has been eventful. They all originally belonged to the collection consigned to the Academy by Swedenborg's heirs, who left them, to use their own words,



REV. JOSEPH E. WERREN, [*p.* 340
Professor of Hebrew and Oriental Languages, New Church Theological School, Cambridge, Mass., U.S.A.

"that they may preserve them in their library with the care which their contents, the respect due to the departed, and the honour of his family may demand, now and for ever." Although delivered under these conditions, we shall see how the most important works were taken away and for a long time considered to be lost, until they at last found their way back to their rightful owners.

We will now continue our chronological account. The first manuscript of the year 1745, or even as early as 1744, consists of materials for the Third Part of "The Worship and Love of God." The first two parts were published by Swedenborg, and the Library possesses his own copy with marginal notes by himself. The unfinished Third Part exists partly in proof-sheets and partly in manuscript. A fragment of a plan of this third part in Swedenborg's handwriting is in the Royal Library.

From 1745 to 1747 Swedenborg wrote his large work, "The Explanation of the Historical Word of the Old Testament," or, as it is generally called, the *Adversaria*, consisting of four manuscripts in folio; and between 1746 and 1748 he wrote the *Index Biblicus*, a large work consisting of six manuscript volumes. This work has lately been phototyped at the expense of the Swedenborg Society.

Very interesting, also, are the notes in Swedenborg's handwriting, made from time to time, probably from the year 1746, in his Bible, which is in the possession of the Library of the Royal Academy; these notes contain a spiritual interpretation of various passages in the Bible, especially in the Old Testament. Unfortunately many of them are missing, the pages on which they were written being lost.

In 1747 Swedenborg began writing his *Memorabilia*, or, as it is called, his Spiritual Diary, which he continued for many years. The MS. consists of nine volumes of various sizes. The work itself is divided into five parts, of which the second, third, fourth and fifth are in existence, but the first part has never been delivered to the Academy. Index volumes, however, to all five parts remain in manuscript.

The history of the original copy of this work has been very peculiar. For many years the codices were lost, the volumes being scattered in different places and in the possession of different persons. In the official catalogue of the Swedenborg Archives in the Library of the Academy, made about 1790 by its Secretary, Professor J. C. Wilcke, the MS. *Memorabilia* is mentioned, but it is added that the work

had been borrowed by the Director, C. B. Wadström, a member of the Academy and a great admirer of Swedenborg. In the inventory of the Swedenborg collection in the Library, made in 1841, by Jac. Berzelius, he also mentions the *Memorabilia* as being lost. The history of these manuscripts is as follows:—

In the year 1788 Mr. Wadström brought with him to England, probably for printing, the third, fourth and fifth parts of the *Memorabilia*, together with a manuscript index volume to these three parts. Mr. Wadström deposited the manuscripts in the hands of a French surgeon in London, Mr. Benedict Chastanier, who entrusted them to other hands and the volumes came into the hands of various persons; and in 1842 they were in the possession of the Swedenborg Society. The Society made an application to the Royal Swedish Academy of Sciences in order to ascertain the validity of the Society's right to the above MSS. The answer made it evident that the Royal Swedish Academy of Sciences was the only rightful owner of the MSS. The Society then determined to restore them to the Institution to which they belonged, and after having had those volumes copied of which no copies existed, the manuscripts were all returned to the Academy.

Through this act of the Swedenborg Society the parts of the "Spiritual Diary" which had been lost were again deposited in the Library of the Academy, except the second part of the "Larger Diary." But the year after, that missing volume was found in the following way:—Dr. Achatius Kahl of Lund reported to the Swedenborg Society in 1843: "I was told in Skara, that a part of Swedenborg's Diary is preserved in the library at Upsala. Since then I have written to one of the professors at that place on the subject, and also to my friend Tafel, and I now find that the Upsala portion of the 'Diary' completes the portion which has hitherto been preserved in London."

The same year the MS. was sent to Dr. Immanuel Tafel at Tübingen in order to be copied, and was afterwards sent back to Upsala. It remained there until 1870, when by the exertions of the Rev. Dr. Rudolf L. Tafel it was restored to the Academy of Sciences. How it had come to Upsala is not certainly known; it is supposed to have been borrowed a long time ago by a professor in that town, who did not restore it to the Academy, and that he or his heirs deposited it in the University Library.

From 1747 to 1753 Swedenborg wrote the *Arcana*

REV. CHARLES BYSE, LAUSANNE, [*p.* 342
Author of "Le Prophéte du Nord," etc.

Cœlestia, which was published in London from 1749 to 1756. The manuscript copy which Swedenborg wrote out for the printer has not been preserved, but we have the first draft. It consists of fifteen volumes in oblong folio and one volume in quarto. The handwriting is exceedingly difficult to decipher, being written very indistinctly in Latin. Large parts are crossed out and corrected, which shows that it was the original draft. There is also an index in three volumes, the history of which is very strange.

Professor J. C. Wilcke, in his catalogue, made a note at the end of the list, in which he says that the Inspector of Mines, Mr. C. F. Nordenskiöld, had borrowed a complete index to the *Arcana Cœlestia* in three volumes. After that list was made nothing was heard about the manuscripts until the Rev. Dr. Rudolf L. Tafel in his "Documents," printed in 1875–1877, mentioned the second volume of this index as missing from the Swedenborg Archives in the Library of the Academy. But in recent years the volume which was supposed to be lost has been found among the manuscripts. Nobody, so far as we know, has ever taken away the Codex from the Library, and it must consequently have been there all the time, although Dr. Tafel did not discover it. The two other index volumes were found quite unexpectedly in the University Library at Upsala in 1870. At the request of Mr. J. A. Ahlstrand, Librarian of the Academy of Sciences, and by the exertions of Dr. Tafel, the manuscripts were restored to the Academy in the same year. One of these latter volumes is the first part of the index volumes.

It might be of interest, in connection with this work, to know that in Swedenborg's almanac for the year 1752, which is preserved in the Royal Library in Stockholm, we find notes written by Swedenborg concerning the *Arcana Cœlestia*. In 1903 the notes were printed at Stockholm.

Following the chronology of Swedenborg's writings, we find as the product of the years 1757 and 1758 several large works. During those years he wrote: "Heaven and Hell," "The New Jerusalem and its Heavenly Doctrine," "The Earths in our Solar System," and "The White Horse." No manuscripts of these works exist except *Contenta* and *Errata typographica* of some of them, preserved in the Royal Library.

In the next year, 1759, Swedenborg nearly finished his large and important work, *Apocalypsis Explicata*, which, after his death, was printed in London by Mr. Robert Hindmarsh, from 1785 to 1789. Of this work there exist two manu-

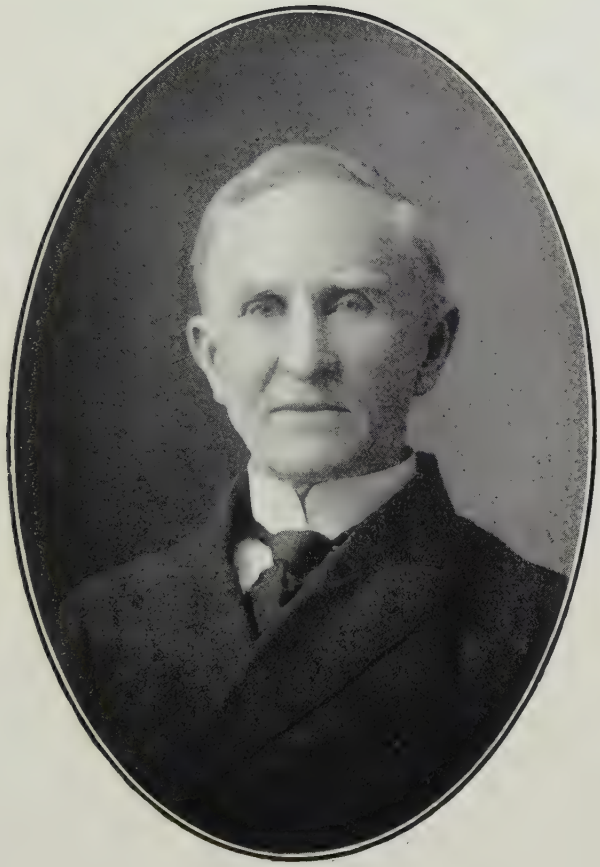
script copies. The first consists of nine volumes in oblong folio and contains the original draft; it corresponds in size and style with the copy of the *Arcana*, mentioned above. This first draft has remained in Sweden since it was consigned to the Academy. The second copy, however, consisting of three volumes in quarto and containing the second draft, fairly written out for the printer, has had a very changeful fate, and has been in the possession of various persons, as will be seen from the following account.

In the year 1783 Mr. C. F. Nordenskiöld went to England in order to get some of Swedenborg's works printed, and, with the permission of the Secretary of the Academy, he took with him several MSS., and among them the *Apocalypsis Explicata*. That he had permission to take them away he mentions in the following words: "In the year 1783 Mr. Wargentin, Secretary of the Academy, permitted Swedenborg's manuscripts to be transported by sea to London in order that such as should be deemed proper might be published. Among them was one manuscript, written out clean for the press by the author, which was entitled *Apocalypsis Explicata*. This was handed in London to Mr. Henry Peckitt, the President of the Society whose object it was to publish the works of the author."

As we have mentioned before, the work was printed from 1785 to 1789, and was published in four large quarto volumes. The expense of publication was met by Mr. Peckitt, who was a great admirer of Swedenborg's doctrines, and was very well acquainted with his writings. After it had been printed, the manuscript was returned to Mr. Peckitt, who, however, did not retain it as his own property, but only as a trustee for the Royal Swedish Academy of Sciences; but he never had an opportunity of sending it to Sweden. The French Revolution had just burst out, making all international intercourse uncertain and dangerous: it would have been too great a risk to send over to Sweden such a precious work as this manuscript, and so it remained in England.

After the death of Mr. Peckitt, the work came into the hands of his friends, Messrs. Sibly and Darwin, was returned to the Peckitt family, and was finally, about 1828, presented to the Swedenborg Society, and kept in its library until 1842, when, as before mentioned, all the Swedenborg MSS. in the possession of the Society were restored to the Academy.

In 1859 the MS. was again borrowed by Dr. Immanuel Tafel for republication in a Latin edition at Stuttgart. The



REV. JOHN GODDARD, [p. 344
Pastor of New Church Society, Newtonville, Boston, Mass.

whole manuscript was photo-lithographed under the supervision of Dr. Rudolf L. Tafel, at Stockholm in 1870, making two large volumes in folio.

Among the manuscripts which were brought to England by Mr. Wadström in 1788 in order to be printed, were four small works, written by Swedenborg in 1759, which were never restored to the Academy, so far as we know. Fortunately copies had been taken of them before they were sent away, so that we know their contents. These works were: "On the Lord," "On the Athanasian Creed," "The Canons," and "Five Memorable Relations." These MSS. were originally included in the Codex containing the work "On Charity," which is preserved in the Library of the Academy.

In 1759 and 1760 Swedenborg wrote "A Summary Exposition of the internal sense of the Prophetical Books and the Psalms of the Old Testament." The original copy of the work was lost for many years. It was not taken over to England by Messrs. Wadström and Nordenskiöld; but a copy had been taken and sent to London, where the work was printed in 1784. In 1859 Dr. Immanuel Tafel borrowed the original manuscript for the purpose of printing a new edition, which was published at Tübingen in 1860. After the death of Dr. Immanuel Tafel, the Codex was sent to England, came into the possession of the Swedenborg Society, and remained there for several years. Finally, in 1874, the MS. was discovered by Mr. James Speirs in a safe of the Society, and ordered to be returned, through Dr. Tafel, to the Academy of Sciences in Stockholm.

During this period Swedenborg produced new works nearly every year. From the years 1760 and 1761 we have a manuscript volume in oblong folio, containing four small works: "The Sacred Scripture, or the Word of the Lord"; "The Last Judgment"; "The Spiritual World," and "The Precepts of the Decalogue."

In 1762 and 1763 Swedenborg wrote "The Divine Love" and "The Divine Wisdom," which works have been printed as an Appendix to the *Apocalypse Explained*. The original MS. has been preserved and forms a volume in oblong folio.

Although Swedenborg had now become a writer chiefly on theology, we still find works by him on other subjects written at this time. In 1763 he published in the Proceedings of the Academy of Sciences a treatise entitled "A Description of the Mode in which Marble Slabs are inlaid for Tables and other Ornaments." A manuscript on this subject, probably the original copy of the article, although there are a few

variations, was found in 1907 during an examination of the archives and papers of the Academy.

The next MSS. that we find in the collection of Swedenborg are two Indexes to the large work, *Apocalypsis Revelata*. The work itself was published by Swedenborg in Holland in 1766, and no manuscript of it exists. But he wrote two indexes, and the original copies of these are extant. The same codex which contains the first index was afterwards used by Swedenborg for an index to a work on "Conjugial Love," which has been lost, but which seems to have consisted of about 2,000 paragraphs, and to have been the first draft of the printed work bearing this title. The contents of the Codex are arranged so that the Index of the "Apocalypse Revealed" covers the right-hand pages, and the Index to the "Conjugial Love" the left-hand pages. At the end of this volume there is written on three pages an article called "A Conversation with Angels."

The second Index to the "Apocalypse Revealed" contains the materials of the first one revised.

The same year that Swedenborg published the "Apocalypse Revealed" he wrote a little work entitled "The Horse and Hieroglyphics," in which he gives an explanation of the signification of the horse in the Bible, namely, the understanding of Truth; he also explains the Egyptian hieroglyphics, which, according to Swedenborg, were based on the correspondence of natural and spiritual things. The Latin original of this little work is preserved in the Royal Library at Stockholm. It consists of three pages in quarto, and was transferred to the Library from the collection of a Swede, Count Engeström. It has been published by the Librarian, G. E. Klemming, in an Appendix to "Swedenborg's Dreams," 1744.

From the year 1767 there are extant two original MSS., one called "On Marriage," a codex of twenty pages in oblong folio, and the other an index to the first work on "Conjugial Love," which has never been in the Academy's possession.

As has been mentioned above, another Index to this work exists, covering the left-hand pages in the manuscript volume which contains the Index to the "Apocalypse Revealed." This Index to "Conjugial Love" gives only a very small part of the contents; the other, on the contrary, is complete, and consists of 280 pages in oblong folio. A summary of this work is contained in the *Arcana Cœlestia*.

During the years from 1768 to 1771 Swedenborg wrote several small theological works, which are contained in one

oblong folio volume. Among these treatises we find the following: "On Justification and Good Works," "Conversations with Calvin," "On the Lord and Saviour Jesus Christ," "On the Faith of the Reformed derived from the Roman Catholic Church," and "A Specimen and Outline of the Doctrine of the New Church in a Summary."

The third and fourth treatises formerly contained in this manuscript volume have been torn out and are lost. We do not know when this occurred, and nothing is mentioned in the catalogue prepared by Swedenborg's heirs about these works being missing. The first of these lost treatises was entitled "Concerning the Remission of Sins"; the second was a summary of Swedenborg's work, "Coronis, or Appendix to the True Christian Religion." Fortunately copies had been taken of both these manuscripts before the pages were torn out, so that we know the contents, which were printed by Dr. Immanuel Tafel in 1846.

The next MS. that we possess has been entitled *Dicta Probantia Veteris et Novi Testamenti*, written in 1769. It contains passages from the Holy Scriptures, collected under doctrinal headings. In the official catalogue made by the heirs it is called "Biblical Sentences collected under leading heads." This codex was among those which were taken to England in 1788 by Mr. Wadström. After having been in the hands of various persons, it came into the possession of the Swedenborg Society, and was restored to the Academy in 1845, after having been copied under the superintendence of Dr. Immanuel Tafel, who printed the work the same year.

In 1771 Swedenborg published his large and fundamental work, "The True Christian Religion," containing a complete statement of the theology of the New Church. He began writing it as early as 1769. No original manuscript exists of the work itself, but a collection of papers, of thirty pages folio, in Swedenborg's handwriting, containing first drafts of portions of this work, is preserved in the Royal Library in Stockholm. How this document was saved from being lost is shown by the following words, written on the inside of the cover of the MS.: "These pages containing original drafts were written by Assessor Swedenborg himself, and left by him in the ship in which he made his last journey from Stockholm to Amsterdam. They were given to me by the shipmaster, Håkan Pålsson, of Carlshamn." The note is signed: "And: Lanaerus."

In the same year that Swedenborg published "The True

Christian Religion," *i. e.* 1771, he wrote out projects for several new works. Only one manuscript volume written during that year is preserved. It is a codex in 368 pages oblong folio. Most of its pages are blank, but between the blank pages is written down, scattered through the volume, the beginning of, or rather a project for, an Index to the *Concordia Pia.*

At the end of the codex is a page containing "An Ecclesiastical History of the New Church," in which Swedenborg gave a sketch of the state of the world in which the New Church arose.

A large MS. of a work by Swedenborg, entitled "Index to the *Concordia Pia,*" has been lost. In the catalogue prepared by Swedenborg's heirs, it is mentioned under this title: "Index to the *Concordia Pia,* published in Leipzig, in 1756, 8vo." Secretary Wilcke, in his catalogue, mentions the MS. as having been borrowed by Mr. C. F. Nordenskiöld, and Berzelius, in his inventory of 1841, also says that it is missing. In a list of the Swedenborg manuscripts in the Library of the Academy, prepared by Johan Björnstjerna, he gives the following description of the lost Codex: "An index to the Concordia-Book, with several interesting matters Swedenborg wrote just before his death." A copy of the original MS. of this work has been preserved, and it is in the possession of the Swedenborg Society in London.

Two other works, both written in 1771, the year before Swedenborg's death, remain to be mentioned. One is called "Coronis, or Appendix to the True Christian Religion," printed in London in 1780. So far as is known, no MS. of the work exists. The original copy is known to have been in London in 1780, but afterwards disappeared. As we have mentioned before, a summary of the work had been written by Swedenborg; but the pages containing this summary have been torn out from the codex in which they were included, and are lost.

The other and last work written by Emanuel Swedenborg bears the title, "On the Consummation of the Age, or the Lord's Second Coming, and the New Church:" to which is added an "Invitation" to that Church, made to the whole Christian World. It is only a projected work, death having overtaken Swedenborg before he had completed it. All that was left of the work at his death was a MS. consisting of fifteen pages in folio. A plan of the work, occupying one page in quarto, written by Swedenborg, is preserved in the Royal Library.

REV. G. L. LANDENBERGER, [*p.* 348
New Church Missionary in Missouri, U.S.A.

Looking back on this account of the Swedenborg manuscripts and their history, we see that, with one exception, all the volumes, which were consigned to the Royal Swedish Academy of Sciences by Swedenborg's heirs, are still in existence, and are preserved in the Library of that body. The only volume left in the care of the Academy which has completely disappeared is the above-mentioned "Index to the *Concordia Pia.*" No other codex is lost, but, as has been related before, several smaller works and treatises have been torn out from the volumes in which they were included, and have never been found.

Most of the manuscripts, of which I have tried to give a description in this paper, have been photo-lithographed, and I have already in my account mentioned a few of them. Many works, both scientific and theological, were published in that way by Dr. Rudolf L. Tafel, in 1869 and 1870. During the last ten years several additional manuscripts have been phototyped, and it is desirable that all the unpublished manuscripts by Emanuel Swedenborg should be reproduced by this method.

Before finishing this account of the Swedenborg manuscripts in the Swedish libraries, it might be of interest to mention, in a few words, the letters and smaller documents in Swedenborg's handwriting, which have survived until our days. The largest collection of original letters by Swedenborg is kept in the Diocesan Library at Linköping. It contains about fifty letters addressed by Swedenborg to his brother-in-law, Eric Benzelius, written between the years 1709 and 1726. All these letters have been published by the Royal Academy of Sciences in the first volume of Swedenborg's scientific works.

In the collection of manuscripts delivered to the Academy by Swedenborg's heirs was a bundle containing letters to various persons, with smaller documents and papers. In this bundle was also included a collection of memorials on political subjects referring to Swedenborg's work in the Swedish Diet, a collection which was afterwards bound up in one volume. Of the letters that we have possessed, a great many are lost. Most of the letters were addressed to Dr. Gabriel Beyer, and, according to the catalogue of Secretary J. C. Wilcke, these had been borrowed by Mr. Wadström. Since that time nothing was known about their fate until 1868, when Dr. Rudolf L. Tafel found them in the possession of a private family in Stockholm. Most of the letters were brought back to the Academy, but some of them came into other hands.

One letter was purchased by the British Museum, and is now in its possession.

A few years ago, another original paper in Swedenborg's handwriting was found among the archives of the Academy. It consists of a reply from Swedenborg when he was elected a member of the Academy. The paper is dated January 1741.

As we see from this account, it is a great treasure that the Swedish libraries possess in the Swedenborg manuscripts. It has been impossible to mention all the small documents, letters, and autographs by Swedenborg's hand, which we know are in the possession of various libraries and private persons in Sweden. I have only been able to give a description and an account of the most valuable and important manuscripts. Having had the opportunity of studying and examining chiefly the works and documents, in Swedenborg's handwriting, preserved in the Library of the Royal Swedish Academy of Sciences, I have mostly confined myself to those manuscripts.

Attempts have been made twice by the heirs of Swedenborg to regain possession of his manuscripts since their delivery to the Academy. The first attempt was made in 1788, when an offer of a considerable amount of money came from England to the heirs for the manuscripts left by Emanuel Swedenborg, but the attempt did not lead to any result.

In 1828 another attempt was made by a citizen of Stockholm, Abraham Berg. He tried to prove his right by a lawsuit, and at last he appealed to the King's decision in the Supreme Court. It was then decided that the Royal Swedish Academy of Sciences was the only rightful owner of the Swedenborg manuscripts, which had been consigned by his heirs to the Academy.

In connection with this account a few words ought to be added about the various catalogues and lists of the Swedenborg manuscripts which have been written or published.

The first catalogue that we possess is the list made by Swedenborg's heirs and delivered to the Academy with the MSS. of Swedenborg, at his death in 1772. The manuscripts in it are divided into three sections: Theological works, Philosophical works, and Letters and Documents. The list is dated: Stockholm, Oct. 27, 1772, and is signed by two of Swedenborg's heirs, E. Wennberg and C. Benzelstjerna.

The next catalogue was published by a French gentleman Mr. A. J. Pernety, in the year 1782. It was probably pre-

pared by Mr. August Nordenskiöld, a brother of Mr. C. F. Nordenskiöld, and forwarded to Mr. Pernety. It contains only Swedenborg's theological works.

In 1785 a new list was made, probably also by Mr. August Nordenskiöld. It was published by a French surgeon, Mr. Benedict Chastanier, mentioned before in this paper, and is contained in a "Prospectus for printing by subscription the posthumous works of the honourable and learned Emanuel Swedenborg," which is appended to a French translation of the work on the "Intercourse between the Soul and the Body," published in London in 1785.

Two years later, in 1787, another catalogue of the Swedenborg manuscripts was prepared by a Swede, Mr. Johan Björnstjerna, at the instance of the "Exegetic and Philanthropic Society" of Stockholm. He also writes the first complete catalogue of the printed works of Swedenborg. Both these lists are preserved in the Royal Library at Stockholm. The manuscript list is classified according to the size of the codices.

The next and last Swedish catalogue, until this year, is the catalogue of the Swedenborg Library of the Academy of Sciences, prepared by its Secretary, Prof. J. C. Wilcke: we do not know the exact year when it was written, but probably in or about 1790.

The codices were now numbered, making together 113 numbers. This list contains all the "Swedenborgiana," as well manuscripts as printed works, preserved in the Library of the Academy.

In 1841 a revision of the above-mentioned catalogue was made, and an inventory of the manuscripts and printed works was taken by the Secretary of the Academy, Jacob Berzelius. This inventory was the last examination made of the Swedenborg manuscripts, until Dr. Rudolf L. Tafel came to Sweden and in 1869 published his "Results of an Investigation into the Manuscripts of Swedenborg," and later on his fundamental work, "Documents concerning the life and character of Emanuel Swedenborg." In this work, published 1875–1877, is included a "Chronological Account" of Swedenborg's works.

Since that time several works on Swedenborg and on his writings have been published, the greatest and most important of which are the Rev. C. T. Odhner's "Annals of the New Church," published in 1904, and the Rev. James Hyde's "Bibliography of the works of Emanuel Swedenborg, original and translated," published in 1906.

No thorough examination and investigation of the manuscripts has been made since Dr. Rudolf L. Tafel's death until 1902, when Mr. Alfred H. Stroh arrived in Stockholm and took up the work of investigating the MSS. These investigations have continued ever since that time, and, as we have already mentioned in this paper, several new manuscripts and documents have been discovered. The MSS. of Emanuel Swedenborg have once more been brought out into light and examined and studied as never before. A new "Abridged Chronological List" of the manuscripts and printed texts in chronological order has been prepared and published. It will also be included in the "Yearbook" of the Royal Swedish Academy of Sciences. From this "List" it will be seen how many new works by Swedenborg have been found during recent years, and how greatly our knowledge of Swedenborgiana has been extended.

NOTES TO MR. HJALMAR KYLÉN'S PAPER.

1. *What does a Modern Standpoint in Philosophy mean?* (Hvad innebär en modern ståndpunkt i filosofien?). I. By Vitalis Norström. Göteburg, 1898, pp. xxxvii + 147 of *Annual of the Gothenburg University* (Göteborg's Högskolas årskrift), 1898. Göteborg: Wettergren & Kerber, 1898.

2. *Chr. Jac. Boström's Lectures on the Philosophy of Religion.* II. Edited, with commentaries, by Gust. Jac. Keijser (Chr. Jac. Boström's Föreläsningar i religionsfilosofi. II. Utgifna med kommentarier af Gust. Jac. Keijser). Stockholm: Norstedt & Söner, 1910. Pp. 216.

3. *On Development and Freedom according to Boström and Eucken* (Om utveckling och frihet enligt Boström och Eucken). By Karl Pira. In "Smärre skrifter utgifna af Boströms förbundet." VII. Stockholm: Adolf Johnson, 1909. Pp. 184.

4. *Emanuel Swedenborgs System der Naturphilosophie, besonders in seiner Beziehung zu Goethe-Herderschen Anschauungen.* Dissertation . . . von Hans Schlieper. Berlin, 1901. Pp. 48.

5. *Le Prophète du Nord. Vie et doctrine de Swedenborg.* Par Charles Byse. Paris: Fischbacher, 1901. Pp. xxiv + 393.

6. *On the Boström Society and its activity* (Om Boströmsförbundet och dess verksamhet). I. By K. Th. Grönstrand. Pp. 390–397 of Nos. 8 and 9 of Teologisk Tidskrift. Teologinen Aikakauskirja. 1909. Helsingfors.

DAISETZ TEITARO SUZUKI, [*p.* 352
Translator of *Heaven and Hell* into Japanese,
A Vice-President of the International Swedenborg Congress

7. *Swedenborg, his Life and Life-view* (Swedenborg, hans lif och lifsåskådning). By Ernst Liljedahl. Pp. 72. Stockholm: Hugo Geber, 1908. No. 9 of *The Greatest Men of Mark* (De störste märkesmännen).

8. *Swedenborg.* By Ernst Liljedahl (Swedenborg af Ernst Liljedahl). By M. (C. J. N. Manby). Pp. 186–189 of *Nya kyrkans Tidning*, 1908. Stockholm, 1908.

9. *Swedish Seers and Poets* (Svenska siare och skalder). By P. D. A. Atterbom. Vol. i, 2nd edition. Örebro, 1862. Pp. 276.—*Vision* (Syn), pp. 201–205.

10. *Friedrich Ueberwegs Grundriss der Geschichte der Philosophie.* Teil iv. 9 Aufl., herausgegeben von Dr. Max Heinze. Berlin: Mittler und Sohn, 1902. Pp. 500–512.

11. *Writings by Christopher Jacob Boström,* edited by H. Edfeldt (Skrifter af Christopher Jacob Boström, utgifna af H. Edfeldt). Vol. i. Upsala: Victor Roos, 1883. Pp. 418. —Dissertatio de notionibus religionis, sapientiae, et virtutis, earumque inter se nexu (1841), pp. 216–353 (with Swedish translation).

12. *Writings by Viktor Rydberg.* Vol. i. Poetry (Skrifter af Viktor Rydberg. I². Dikter). 3rd edition. Stockholm: Bonnier, 1899. Pp. 305.—*The Brooder* (Der Grübeler), pp. 187–197.

13. *Goethe-Studien,* von Max Morris. Bd. i, 2 Aufl. Berlin: Skopnik, 1902. Pp. 340. Swedenborg im Faust, pp. 24.

14. *Immanuel Swedenborgs Ausgewälte Werke.* Bd. i. Immanuel Swedenborgs theologische Schriften uebersetzt und eingeleitet von Lothar Brieger-Wasservogel. Jena und Leipzig: Diederichs, 1904. Pp. 362.

15. *Realencyklopädie für protestantische Theologie und Kirche.* Begründet von J. J. Herzog. In dritter . . . Auflage . . . herausgegeben von D. Albert Hauck. Bd. 19. Leipzig: Hinrich, 1907. Pp. 844. Article *Swedenborg,* signed W. Köhler. Pp. 176–295.

16. *The History of Investigations concerning Swedenborg* (Ur Swedenborgsforskningens historia). By Hjalmar Holmquist. Pp. 97–113 and 247–265 of *Kyrklig Tidskrift.* Upsala, 1909.

17. *Lehrbuch der Geschichte der Philosophie,* von Dr. W. Windelband. Tübingen und Leipzig: Mohr (Siebeck), 1908. Pp. 575.

18. *In Memory of Thorild* (Till Thorilds minne), Oct. 1, 1908. By students of the Seminar of the University of Lund (Av litteraturhistoriska seminariet i Lund). Lund, 1908. Pp. vi + 108 + l. No. 1, vol. iv, sec. 1 of *Acta Universitatis Lundensis.* Nova series. Lund: Gleerup, 1908–1909.

19. *The New Church and its Influence on the Study of Theology in Sweden* (Nya kyrkan och dess inflytande på theologiens studium i Sverige). Vols. i–iv. Lund: Berling, 1847–1864. Vol. i, pp. 77; vol. ii, pp. 92; vol. iii, pp. 144; vol. iv, pp. 145.

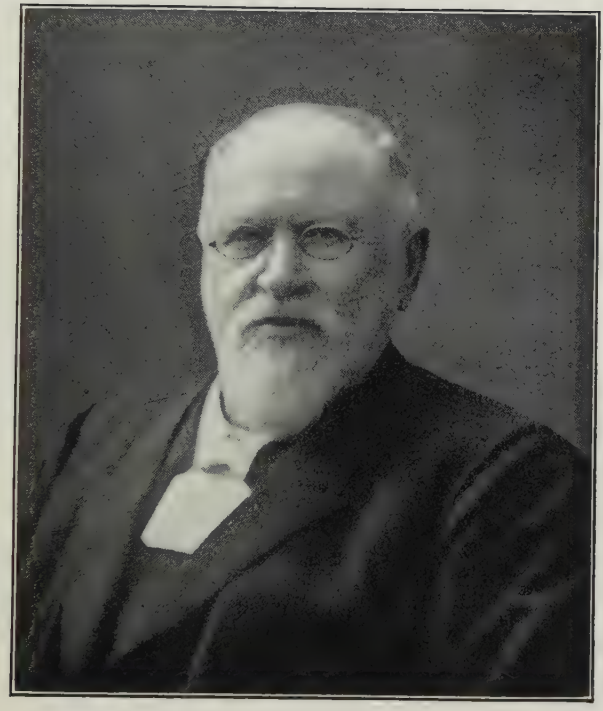
20. Otto Ahnfelt, *Memoirs* (Ur mina minnen). Stockholm: Norstedt, 1905. Pp. 71.

21. *Colloquies with Myself on the World, Man, and God* (Samtal med mig sjelf om verlden, menniskan och Gud). 2nd edition. Upsala: Palmblad, 1827.

22. *Attempts to clear up Some Important Questions* (Försök ait utreda några viktiga frågor). Upsala: Palmblad, 1827. Pp. 454.

23. *Swedenborg's Youth and First Great Period of Activity* (Från Swedenborgs ungdom och första stora verksamhets period). By Hjalmar Holmquist. Pp. 37–60 and 206–234 of *Bibelforskaren*. Upsala, 1909.

24. See p. 336 in *The new Swedish Hymn Book described in an Attempt at a Swedish History of Hymns* (Den nya svenska psalmboken, framställd uti försök till svensk psalmhistoria). By Johan Vilhelm Beckman. Stockholm: Norstedt, 1845. Pp. 1059.



REV. C. J. N. MANBY, [p. 354
Pastor of the New Church Society, Stockholm

THE LANGUAGES IN WHICH SOME OR ALL OF SWEDENBORG'S WORKS HAVE BEEN ISSUED

LATIN :

Omnis religio est vitæ, et vita ejus est facere bonum.

ENGLISH :

All religion has relation to life, and the life of religion is to do good.

FRENCH :

Toute religion consiste dans la vie, et la vie de la religion consiste a faire de bien.

GERMAN :

Alle Religion ist eine sache les Lebens, und das Leben derselben besteht im Gutes thun.

SWEDISH :

All religion är lifvets sak, och dess lif är att göra det goda.

HUNGARIAN :

Minden vallás az életnek a dolga. A vallás a jónak eselekvésében áll.

ESPERANTO :

La tuta religio rilatas al la vivo, kaj la vivo de la religio estas bonfarado.

ITALIAN :

Ogni religione si riferisce alla vita, e la vita della religione è di fare il bene.

WELSH :

Yr oll o grefydd a berthyn i fywyd, a bywyd crefydd yw gwnlyd daioni.

DANISH :

Al religion har hensyn til livet ; og dens liv bestaaer i at gjore det gode.

DUTCH :

Alle godsdienst heeft betrekking op het leven, en het leven van den godsdienst is goed doen.

ICELANDIC :

Oll trú er fyrir lífid, og líf hennar er ad gjöra gott.

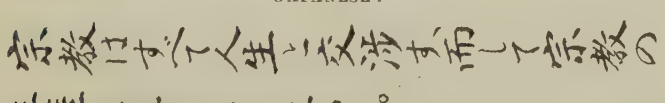
POLISH :

Każda religja ma stosunek do życia, główna i jedyna treść religji-dobre uczynki.

RUSSIAN :

Всякая религія имѣетъ отношеніе къ жизни, а сущность религіи—дѣлать добро.

JAPANESE :



Also in SPANISH, ARABIC, and HINDI.

OFFICIALS AND MEMBERS OF THE CONGRESS

Acton, Rev. A., Academy of the New Church, Bryn Athyn, Penn.
Aldous, Mrs., 38, New Street, Brightlingsea.
Allbright, W. J., 7, Broadfield Road, Catford, S.E.
Andersson, Dr. Aksel, Library, University of Upsala, Sweden.
Appleyard, E., 6, Tierney Road, West Dulwich, S.E.
Armitage, Miss J. A., Sunny Mount, Dewsbury.
Arrhenius, Prof. Sv., Royal Academy of Sciences, Stockholm.
Ashby, Rev. Joseph, 113, Duke Street, Southport.

Bachmann, J. H., Zürich, Switzerland.
Bachmann, Mrs., Zürich, Switzerland.
Barber, T. W., 24, Avenue Road, South Norwood, S.E.
Barger, G., Voorburg, The Hague, Holland.
Barlow, T. J., 59, Radley Road, Forest Gate, E.
Barnard, Hon. Job, } 1306, Rhode Island Ave., Washington,
Barnard, Mrs. } D.C., U.S.A.
Barnes, Ashworth, B.A., Craigmore, Accrington.
Barnes, Mrs. J., Dyke Nook, Accrington.
Barnes, Herbert, 47, Washington Street, Accrington.
Barnes, Jonathan, Accrington.
Barrett, Mrs., 85, Osbaldeston Road, Stoke Newington, N.
Barrett, Prof. W. F., F.R.S., Carrigoona, Bray, co. Wicklow.
Bates, Rev. W. A., 6, Churchill Road, Willesden Green, N.W.
Bayley, E. H., J.P., Ellesmere, Bromley, Kent.
Bayley, F., M.A., Ellesmere, Bromley, Kent.
Bayley, Miss, Morven, 6, North Hill, Highgate, N.
Baynham, Prof. G. W., 255, College Road, Norwich.
Beck-Friis, Baron, Augustin, Swedish Legation, 73, Portland Place, W.
Beilby, Alfred E., Old Radford, Nottingham.
Beilby, Rev. Arthur E., 4, Chelford Road, Whalley Range, Manchester.
Beilby, Mrs., 4, Chelford Road, Whalley Range, Manchester.
Berkeley, Albert, W. T., 283, Holmesdale Road, South Norwood.
Berkeley, Mabel, 283, Holmesdale Road, South Norwood.
Best, H., 44, Louis Street, Hull.
Bevington, Col. R. K., The Thorns, Sevenoaks.
Bhatt, Prof. M. R., Bhavnagar, Presidency of Bombay, India.
Bigelow, Hon. John, 21, Gramercy Park, New York.
Birch, Miss, Beauchamp Lodge, Warwick Crescent, W.
Birchall, C. E., Church Field, C.-cum-H., Manchester.
Bishop, L. Brackett, Chicago Beach Hotel, Chicago.
Bishop, Mrs. Brackett, Chicago Beach Hotel, Chicago.

Black, F., R.B.A., 56, Anson Road, Tufnell Park, N.
Black, Mrs., 56, Anson Road, Tufnell Park, N.
Black, Frank H., 56, Anson Road, Tufnell Park, N.
Blake, W. E., 6, Glossop View, Rider Road, Woodhouse, Leeds
Bogg, J. S., 43, Ashley Road, Altrincham, Cheshire.
Bowker, W., 58, Devon Street, Farnworth.
Braby, Mrs. Alfred, Ennore, Carlton Road, Putney, S.W.
Braby, Miss, Ennore, Carlton Road, Putney, S.W.
Bradbury, R., 10, Chandos Road, Broadstairs.
Bradley, Alfred, Manchester.
Bradshaw, N., 35, Bridgfield Street, Radcliffe, Manchester.
Bragg, C. B., Hamstead Mount, Handsworth, Birmingham.
Brereton, F., 14, Hazeldene Road, Ilford.
Bressey, W., J.P., St. Leonards Road, Windsor.
Bridson, G. H., 17, Canova Street, Edge Lane, Liverpool.
Broadfield, E. J., B.A., LL.D., Roseleigh, Prestwich, Manchester.
Bromwell, Grace, 933, Wallace Street, Phila., Pa., U.S.A.
Brown, A., 20, Bury Fields, Guildford.
Browne, J. Stark, F.R.A.S., The Red House, Mount Avenue, Ealing.
Burl, William, 122, Englefield Road, London, N.
Burton, Annie G., 22, Welbeck Grove, Higher Broughton, Manchester.
Buss, Rev. J. F., Ardlui, St. Quintin Ave., North Kensington, W.
Buss, Miss, Ardlui, St. Quintin Ave., North Kensington, W.
Buss, Rev. W. H., 56, Dicconson Street, Wigan.
Byse, Rev. Charles, Valentin 23, Lausanne, Switzerland.

Caldwell, W., Elton Villa, Paisley,
Caldwell, Mrs. W., Elton Villa, Paisley.
Calleja, Dr. L. E., Guadalajara, Jolisco, Mexico.
Care, Charles, 47, Victoria Road, Upper Norwood, S.E.
Carrel, Miss, 17, Perth Road, Stroud Green, N.
Carswell, R., Duncan Street, Toronto, Ont., Canada.
Cavit, C. G., Marley, Argyll Road, Boscombe.
Chadwick, F., 11, Stockwell Park Road, S.W.
Chadwick, T., 31, Elfindale Road, Herne Hill, S.E.
Chamberlain, S., 30, Chisholm Road, Croydon.
Chapman, D., Alma Street, Wyvenhoe.
Chevrier, Mme., 3, Bourgmayer Street, Bourg, France.
Chevrier, Mlle., 3, Bourgmayer Street, Bourg, France.
Clark, Joseph, 11, Stanley Gardens, Cricklewood, N.W.
Clarke, Eustace C., Lochiel, Mansewood, Pollokshaws, Glasgow.
Clarke, Mrs. W., Woodville, Sherwood, Nottingham.
Claxton, Rev. W. H., 683, Manchester Rd., Great Lever, Bolton.
Clubb, W. H., Marbourg, Victoria Park, Wavertree, Liverpool.
Collinge, F., 69, Middleton Road, Heywood.
Cook, Miss Alice M., 4, Clarendon Road, Jersey.

Compton, Miss Louisa M., Hawkstone, Winscombe, Somerset.
Compton, Miss, Hawkstone, Winscombe, Somerset.
Cumming, Mrs. E. J., 20, Bute Gardens, Glasgow.
Cumming, Robert, 151, St. Vincent Street, Glasgow.
Cunliffe, H. G., The Coppice, Burnley Road, Accrington.
Cunliffe, Mrs., The Coppice, Burnley Road, Accrington.
Cunliffe, James, J.P., High Lea, Accrington.
Cunliffe, Mrs., High Lea, Accrington.
Curtis, A. J., 31, Handsworth Wood Road, Birmingham.

Dalby, I. J., 25, Mostyn Road, Handsworth, Birmingham.
Deans, John, Mowbray Cottage, Oak Lane, Finchley, N.
Deans, Rev. Harry, 92, Church Lane, Handsworth, Birmingham.
Deans, Rev. Joseph, 38, Crouch Hall Road, Crouch End, N.
Deans, Mrs. R. Storry, 32, Crouch Hall Road, Crouch End, N.
Deans, R. Storry, LL.B., 32, Crouch Hall Road, Crouch End, N.
Dearden, Miss, 13, Nelson Street, Accrington.
Deltenre, M., Avocat, Rue Plantin, Antwerp.
Dicks, S. B., Saxonhurst, Fox Hill, Upper Norwood, S.E.
Dickson, W. K. L., 4, Denman Street, Piccadilly, W.
Donaldson, P., 19, Underwood Street, Langside, Glasgow.
Dow, E. G., 26, Bute Gardens, Glasgow.
Dow, Mrs., 26, Bute Gardens, Glasgow.
Downes, Mrs. T. E., 5, Walmer Crescent, Ibrox, Glasgow.
Drummond, Rev. H. Gordon, 24, Howe Street, Higher Broughton, Manchester.
Dufty, Rev. J. G., Grove Place, Dalton, Huddersfield.

Eadie, Andrew, 62, Aytoun Road, Pollokshields, Glasgow.
Eadie, Mrs., 62, Aytoun Road, Pollokshields, Glasgow.
Eadie, Miss Gertrude, 62, Aytoun Road, Pollokshields, Glasgow.
Eadie, Gordon, 402, Sauchiehall Street, Glasgow.
Eadie, James, M.B., Ch.B., F.R.C.S., 16, Weymouth Street, W.
Eckersall, Miss H., Morley Street, Whitefield, Manchester.
Eckersall, J. W., 105, King Street, Farnworth.
Edwards, J. B., Bryanston, Cromer Road, Southend-on-Sea.
Edwards, W. F., 23, Gloucester Road, Finsbury Park, N.
Ekelöf, Miss Greta, Library, Royal Academy of Sciences, Stockholm.
Elliott, Sir T. H., K.C.B., Ravensbrook, Oxted, Surrey.
Emslie, A. E., Rye Lane, Sevenoaks.
Emslie, Mrs. A. E., Rye Lane, Sevenoaks.
Elphick, F. W., Frederick Lodge, Carshalton, Surrey.
Estcourt, Elizabeth, 32, St. Paul's Ave., Cricklewood, N.W.

Faraday, C. A., 3, Duke's Avenue, Muswell Hill, N.
Fairlie, F. W., 2, University Gardens, Glasgow.
Fieldhouse, E., 140, St. George's Road, Barnsley, Yorks.

Fortnum, J. J., Rosemeade, High Road, Thundersley, Essex.
Foster, J. T., 33, Westbourne Road, Birkdale, Southport.
Foster, Mrs. Amos, 5, Howland Street, Roxbury, Mass., U.S.A.
Franks, W., The Knoll, Swannington, Leicestershire.
Freeland, David, Holmhead Road, Cathcart, Glasgow.
Freeth, Rev. J. T., 3, Sunny Mount, Keighley.
Friend, A. E., 29, Lena Gardens, Brook Green, W.

Gardiner, F. A., Inversnaid, West Heath Avenue, N.W.
Gardiner, Harold, M.B., B.S., M.R.C.S., Inversnaid, West Heath Avenue, N.W.
Gardiner, Miss, Inversnaid, West Heath Avenue, N.W.
Gardiner, Miss W. M., Inversnaid, West Heath Avenue, N.W.
Gee, A. C., 49, Castle Street, Bolton.
Gibbins, H., 7, Bosville Road, Crookes, Sheffield.
Gilbert, S. E., 371, Oldham Road, Failsworth, Manchester.
Gilbey, L., B.A., 4, St. Stephen's Road., Ealing, W.
Gilbey, James, Aston Lodge, St. John's Road, Watford.
Gilchrist, Herbert H., 21, Harrington Road, South Kensington, S.W.
Goddard, Rev. John, Newtonville, Boston, Mass.
Goddard, Mrs., Newtonville, Boston, Mass., U.S.A.
Goerwitz, Rev. Adolph L., Oberstrass, Zürich, Switzerland.
Goldsack, Rev. S. J. C., Lochiel, Mansewood, Pollokshaws, Glasgow.
Gould, Thomas, Batleigh, Whitechurch Road, Cardiff.
Goyder, David, M.D., 88, Great Horton Road, Bradford.
Graham, Mrs., 22, Talbot Road, Highgate, N.
Gray, Miss Edith, 90, Manor Road, Brockley, S.E.
Gray, John, 90, Manor Road, Brockley, S.E.
Griffiths, Rev. C., Carfield House, Ramsbottom, Lancashire.
Griggs, Emanuel, 85, New Street, Brightlingsea.
Grosh, Mrs., Toledo, Ohio, U.S.A.
Guernsey, H. W., New York.

Hall, Rev. C. A., Meersbrook, Meikleriggs, Paisley.
Harbutt, W., A.R.C.A., The Grange, Bathampton, Bath.
Harrison, Mrs., Elmdene, Eltham.
Harvey, Martin, 30, Avenue Road, St. John's Wood, N.W.
Harvey, Mrs., 2, Grove Road, Cricklewood, N.W.
Haslam, J. F., Mount View, Melbourne, Derby.
Hawthorne, Julian, New York.
Heath, Mrs., 29, St. Kilda's Road, Stoke Newington, N.
Henschen, Prof. S. E., Caroline Institute, Stockholm.
Henschen, Mrs., Stockholm.
Heys, Henry, Fern Terrace, Haslingden.
Higby, C., Claygate, Surrey.
Higham, Charles, 169, Grove Lane, Camberwell, S.E.

Higham, Horace C., 169, Grove Lane, Camberwell, S.E.
Hindle, J. H., 8, Cobham Street, Accrington.
Hite, Rev. L. F., 22, Mount Pleasant St. N., Cambridge, Mass.
Hodgkinson, W. R., Edina, Snodland, Kent.
Hodson, Mrs. S. J., 7, Hillmarton Road, N.
Hoeck, Rev. L. G., 825, Oak Street, Cincinnati, Ohio, U.S.A.
Hoeck, Mrs., 825, Oak Street, Cincinnati, Ohio, U.S.A.
Holgate, J., 172, Withington Road, Manley Park, Manchester.
Holland, J. R., 17, Edwin Road, Hyde Park, Leeds.
Hopkins, Miss L., Birkdale, Southport.
Horner, Rev. W. R., 16, Hillside Road, Moseley Hill, Liverpool.
Houldsworth, F., 40, Melton Street, Clayton-le-Moors, Accrington.
Howard, James, 51, Belmont Road, Oldham, Manchester.
Howarth, Rev. J., Fern Lea, Back o' th' Bank, Bolton.
Howell, M., 15, County Grove, Camberwell, S.E.
Howells, W. Dean, 130, West 57th Street, New York.
Hubbard, H. J., 32, Alderney Road, Mile End, E.
Hurt, Rev. W. E., 37, Petherton Road, Canonbury, N.
Hyde, Rev. James, 86, London Road, St. Leonards-on-Sea.

Ingelman, Alfred, Stockholm.
Ingram, Mary, 223, Harlesden Road, N.W.
Isherwood, I., 7, Southfield, Blackburn.
Isherwood, Mrs., 7, Southfield, Blackburn.
Ives, Albert, 5, Dalwood Street, Camberwell, S.E.

James, Henry, Lamb House, Rye, Sussex.
Jesseman, W. D., 53, Childebert Road, S.W.
Jobson, R., 101, Lordship Road, Stoke Newington, N.
Johnston, Miss E., Ivy Bank, Braehead Ave., Rutherglen, Glasgow.
Jones, David, Llechryd, Cardigan.
Jones, Rev. E., Primrose Cottage, Embsay.
Jubb, W. C., 8, Micklegate, York.
Jubb, Mrs., 8, Micklegate, York.

Kenyon, R. W., Hirstwood, Accrington.
Kenyon, Miss S. L., Marthness, Whalley Road, Accrington.
Kimball, Ezra T., 94, Warren Avenue, Brookton, Mass, U.S.A.
Klason, Prof. P., Technical High School, Stockholm.
Kylén, Hj., Kungsholms, Realskola, Stockholm.

Landenberger, Rev. L. G., 3741, Windsor Place, St. Louis, Mo., U.S.A.
Lardge, Rev. W. T., 19 Bairstow Street, Preston.
Law, Mrs. Bertha, Bowden, Cheshire.
Lidén, Miss Nancy, Mariebergsgatan 4, Stockholm.
Lindh, F. G., Stockholm.
Lindskog, Rev. J., 22, Springfield Road, N.W.

Lloyd, Mrs., Sylvester House, Braunton, Devonshire.
Lönnberg, Prof. Einar, State Museum for Zoology, Stockholm.
Lyne, E. J., 3, Duke's Ave., Muswell Hill, N.
Lyne, Mrs., 3, Duke's Ave., Muswell Hill, N.

Macdonald, Andrew, Sherbrooke, Pollokshields, Glasgow.
Macdonald, Mrs., Sherbrooke, Pollokshields, Glasgow.
Macdougal, John, 37, Broom Hill Drive, Partick, Glasgow.
Macdougal, Mrs., 37, Broom Hill Drive, Partick, Glasgow.
Macfarlane, O. P., Southlands, Ware Road, Hertford.
Macfarlane, Mrs., Southlands, Ware Road, Hertford.
Maclagan, O. F., Dollis House, Holden Rd., Woodside Park, N.
Mainwaring, John, Ynysmeudwy, Swansea Valley.
Manby, Rev. C. J. N., Engelbrektsgatan 10, Stockholm.
Manning, A. W., 250, Main Street, Riverside, Cal., U.S.A.
Mason, C. C., Cleveland, O.
Mason, Mrs. C. C., Cleveland, O.
Mason, J., Davenport, 22, St. Paul's Ave., Cricklewood, N.W.
Mather, Right Hon. Sir William, P.C., LL.D., Bramble Hall, Bramshaw, New Forest.
Mayes, Richard, 19, Banks Street, Horncastle.
McDowall, H., 73, Athenlay Road, Nunhead, S.E.
McDowall, Mrs., 25, Carson Road, Dulwich, S.E.
McDowall, Miss, 25, Carson Road, Dulwich, S.E.
McGeorge, William, junr., Bullett Building, Philadelphia.
Meek, Rev. G., B.A., 23, Chaucer Street, Nottingham.
Meek, George B., 122, Bishop Road, Bristol.
Mellor, A. P., 42, Westbourne Road, Birkdale, Southport.
Methven, D. W., 52, Wellington Street West, Higher Broughton, Manchester.
Michael, Ll., Dolcoed, Brecon Road, Pontardawe, Swansea Valley.
Mills, W., 73, Kelmorie Road, Forest Hill, S.E.
Mobbs, A., 20, Erleigh Road, Reading.
Mongredien, Mrs. E. C., 16, Uplands Road, Stroud Green, N.
Mongredien, P. A., 20, Ossian Road, Stroud Green, N.
Mongredien, S. W., 16, Uplands Road, Stroud Green, N.
Morgan, Miss, 6, Northwick Terrace, N.W.
Morris, H. N., 13, Birch Grove, Rusholme, Manchester.
Mosley, T., 26, Becher Street, Derby.
Moss, J. W., Feering, Kelveden.
Mudie, Alfred, 77, Kensington Gardens Square, W.
Mudie, Mrs., 77, Kensington Gardens Square, W.
Mudie, E. R., 15, Coventry Street, W.

Nathorst, Prof. A. G., Drottninggatan 96, Stockholm.
Naylor, H., Rockley Mount, Victoria Avenue, Southend-on-Sea.
Neuburger, Prof. Max, M.D., Kasernengasse 26, Vienna, VI.
Newall, Rev. E. C., Highfield, Radcliffe, Manchester.

Newboult, G. A., Thornleigh, The Grove, Shipley.
Newland, H., The Larches, Pinner Road, Northwood.
Newland, Mrs. H., The Larches, Pinner Road, Northwood.
Nicol, David Speirs, Darvel House, Paisley.
Nitsch, C., 26, The Park, Ealing, W.
Nobbs, J. H., Beech Villa, Priory Road, Hornsey, N.
Nordenskiöld, Miss, Stureparken 9, Stockholm.
Nordenskiöld, Olof, Stureparken 9, Stockholm.
Nussbaum, Rev. C. A., 4530, McPherson Ave., St. Louis, Mo.
Nyrén, Prof. Magnus, Stockholm.

Odhner, Rev. C. T., Bryn Athyn, Pa., U.S.A.
Oldham, W. D., Danehurst, East Park Parade, Northampton.
O'Mant, Rev. W., 9, Montague Terrace, New Barnet.

Parcell, A. E., 20, Lonsdale Street, Hull.
Parry, C. E., 276, Western Bank, Sheffield.
Paterson, R. M., Speirsfield, Paisley.
Payne, W., 19, Longfellow Ave., Bath.
Pell, G., Green Mount, Rochdale Road, Heywood.
Pemberton, W. F., Brantwood, Blackburn.
Penn, W. C., 57, Tierney Road, Streatham, S.W.
Pickering, W. F., 93, Great Moor Street, Bolton.
Pilkington, W., 16, George Street, Clayton-le-Moors.
Pitcairn, John, Bryn Athyn, Montgomery Co., Pa.
Pitcairn, Theodore, Bryn Athyn, Montgomery Co., Pa.
Plummer, Mrs., 1, Bloomsbury Street, W.C.
Posthuma, W., 212, Croxted Road, Herne Hill, S.E.
Potter, G. E., 4, Colne Road, Lexden, Colchester.
Presland, Miss Annie, 22, Talbot Road, Highgate, N.
Presland, Claud W., 2, Priory Gardens, Highgate, N.
Presland, Rev. J. R., 30, Raike's Parade, Blackpool.
Presland, Rev. W. A., 2, Priory Gardens, Highgate, N.
Presland, Mrs., 2, Priory Gardens, Highgate, N.
Proctor, Lee, 4, Murray Street, Burnley.
Pulsford, Rev. E. J., 8, Egerton Road, Whitefield, Manchester.
Pulsford, L. H., 71, Crayford Road, Tufnell Park, N.

Rabagliati, Andrea, M.D., Bradford.
Ramström, Prof. Martin, Upsala University, Sweden.
Rawsthorne, Mrs., Holland Bank, Water Park Rd., Manchester.
Redgrote, H. Stanley, B.Sc., Tottenham Court Road, W.
Reed, Rev. J., 12, Louisburg Square, Boston, Mass.
Rees, Rev. W., Llechryd, Cardiganshire, Wales.
Rendell, Rev. J. R., B.A., Whinside, Accrington.
Retzius, Prof. G., Royal Academy of Sciences, Stockholm.
Rhodes, Dr. Milsom R., Bridge House, Didsbury, Manchester.
Rhom, Karl, Lorch, Stuttgart, Germany.

Richardson, F. W., F.I.C., Oaklea, Menston-in-Wharfedale.
Richardson, Miss Jessie, Dorking.
Riley, J., 40, Northdown Street, Caledonian Road, N.
Riley, W. J., Hawkshouse, Brierfield, Burnley.
Robinson, H., 7, Trafalgar Road, Birkdale, Southport.
Robinson, Mrs. H., 7, Trafalgar Road.
Robinson, Henry, Stroud Green, N.
Robinson, J., 188, Dickenson Road, Rusholme, Manchester.
Robinson, Mrs. W., 90, Acomb Street, Moss Side, Manchester.
Rodgers, Mrs. Marie, 31, Hall Road, Handsworth, Birmingham.
Rodgers, Rev. R. R., 31, Hall Road, Handsworth, Birmingham.
Rolason, J. G., 2, Radnor Road, Handsworth, Birmingham.
Rolph, T. S., 92, Park Street, Southend-on-Sea.
Rowe, H., 27, Hillmarton Road, Camden Road, N.
Rowe, Miss Edith, 27, Hillmarton Road, N.
Rowe, W. H., Rosendale, Letchworth, Herts.
Rowse, Rev. Mark, 36, Lancaster Place, Blackburn.
Rydings, C., Lyme Park View, High Lane, *near* Stockport.
Ryland, Rev. A., Moore Place, Stanford-le-Hope, Essex.

Sach, E. C., Rosemary, Shirley Road, Croydon.
Sale, George, 43, Southend Road, Beckenham.
Santesson, Prof. C. G., Caroline Institute, Stockholm.
Sare, F., 1, Laura Place, Bath.
Saul, D. H., Worrinho, Worrin Road, Shenfield, Essex.
Schmidt, F. A., 9, Durnford Street, Middleton.
Schofield, A., Standiforth, Dalton, Huddersfield.
Schreck, Rev. E. J. E., 1710, Normal Boulevard, Chicago.
Seddon, Mrs., Southport.
Senior, C. F., South Road, Birmingham.
Sewall, Rev. Frank, M.A., D.D., 1618, Riggs Place, Washington, D.C., U.S.A.
Sewall, Mrs., 1618, Riggs Place, Washington, D.C., U.S.A.
Seward, Rev. S. S., 3087, W. Grand Boulevard, Detroit, Mich.
Sexton, Prof. A. H., 78, Rouge Bouillon, Jersey.
Sexton, Rev. G. A., Well Bank, Haslingden.
Sieger, Dr. Robert, Graz, Austria.
Simpson, W., 202, Colne Road, Burnley.
Sjögren, Prof. Hj., Nynäs, Kullstra, Sweden.
Slack, T., C.C., Witherley, *near* Atherstone.
Slight, Rev. L. A., 150, Grange Avenue, Oldham.
Smith, Harold G., Gernrode, Berkhamsted.
Smith, Mrs. H. G., Gernrode, Berkhamsted.
Smith, J. Arthur H., 56, Whitehall Park, N.
Smith, R., Woodcroft, Snodland, Kent.
Smyth, Rev. Julian K., M.A.
Spalding, Mrs. Adelaide, 4, Westbury Road, Ealing, W.
Spalding, J. Howard, 4, Westbury Road, Ealing, W.

Spear, W., Hundholmen, Tysfjörd, Norway.
Speirs, James, Florence Villa, 16A, North Hill, Highgate, N.
Spital, E., Domus, St. Bernard's Road, Olton, Birmingham.
Sprigge, Mrs. F. Y. W., c/o Mrs. Hanbury, Sidcup.
Spurling, G. H., 74, Marquess Road, Canonbury, N.
Stevenson, F., 89, Withington Road, Whalley Range, Manchester.
Stewart, E. C., 2A, Devonshire Street, Islington, N.
Stockton, Rev. F. J., 10, Maple Grove Avenue, Bath.
Stockwell, Rev. J. W., 46th Street, and Woodland Ave., Chicago.
Stones, Rev. A., 46, Park Road, Newcastle-on-Tyne.
Stones, Mrs. S., Cattle Market Hotel, Bolton.
Stonestreet, Rev. W. T., Rossendale, Ansdell, Lytham.
Stroh, A. H., M.A., Karlbergsvägen 32A, Stockholm.
Stroh, Mrs. H. G., Bryn Athyn, Pa.
Stubbs, Miss Jessie, 109, Cornwall Road, N.
Sundström, Commodore Nils, Stockholm.
Suzuki, Daisetz Teitaro, Tokyo, Japan.
Swedenborg, Captain G. W. E., Östersund, Sweden.

Tafel, Mrs., 6, Dalmeny House, Anson Road, Tufnell Park, N.
Tansley, Rev. I., B.A., 240, South Norwood Hill, S.E.
Tansley, Mrs., 240, South Norwood Hill, S.E.
Taylor, J., 310, Avril Bank, Stockport Road, Levenshulme, Manchester.
Taylor, T. B., The Grange, Highgate, N.
Thorn, O., Northfield, Great North Road, N.
Thornton, Rev. J. J., 5, Cranworth Street, Glasgow.
Tidswell, E., M.A., 9, Glasslyn Road, Crouch End, N.
Tilson, Rev. R. J., Upstall Road, Camberwell, S.E.
Tilson, Miss, 24, Woodville Terrace, Horton Lane, Bradford.
Tiplady, Miss E., Carlton Street, Farnworth.
Toby, C., 138, Clarendon Road, Notting Hill, W.
Tuerk, C. E., 17, Alleyn Road, Canonbury.
Tuerk, Mrs., 63, Manor Road, Stoke Newington, N.
Turner, F. W., 4, Oakdale Road, Mossley Hill, Liverpool.
Turner, R., East View, Scott Street, Keighley.
Tweed, H. C., North Station Road, Colchester.

Varley, J. W., Somerset Road, Huddersfield.
Vivian, Harold, 65, Park Road, Chiswick, W.

Wall, Rev. G. W., 84, Manchester Road, Heywood.
Wallis, G. Harry, Nottingham Castle, Nottingham.
Walwyn, P., Thornleigh, Rochdale Rd., Heywood.
Wardle, Clifford, 24, Clarendon Street, Whitefield, Manchester.
Warren, Prof. H. L., Harvard University, Cambridge, Mass.
Warren, H. L., 12, Gileston Road, Portcanna, Cardiff.
Waters, J., 164, Loughborough Road, Brixton, S.W.

Watkins, G. P., Culpho Hall, Ipswich.
Watson, C., 26, Ambler Road, Finsbury Park, N.
Watson, Miss, 125, Camden Road, N.W.
Waugh, W. H., 24, Cavendish Road, Harringay, N.
Webb, E., 59, Monmouth Road, Lower Edmonton.
Werner, Percy, St. Louis, Mo.
Werren, Rev. J. E., New Church Theological School, Cambridge, Mass.
Westall, A., 8, Mellalieu Street, Middleton.
Wethey, L. E., 48, Quincey Street, Cambridge, Mass.
Whitney, F. O., Boston, Mass.
Wilde, Rev. A., 16, Berkeley Road, Crouch End, N.
Wilson, Miss G., 9, Balmoral Road, Nottingham.
Woodford, Rev. J. J., 18, Bertram Road, Bradford.
Woodman, T. G., 90, Bolton Road, Kearsley.
Woolley, E. T., 64, Thicket Road, Anerley, S.E.
Worcester, The Hon. F. J., New York.
Worcester, Mrs. F. J., New York.
Worcester, Miss S. A., 33, Trowbridge St., Cambridge, Mass.
Wrangel, Count, 73, Portland Place, W.
Wright, E., 46, Ivy Road, Handsworth, Birmingham.
Wynter, D., Bishopswood, Highgate, N.
Wynter, Miss Ada, Bishopswood, Highgate, N.
Wynter, Miss Jessie, Bishopswood, Highgate, N.
Wynter, H. Noel, Bishopswood, Highgate, N.

EXHIBITION OF SWEDENBORGIANA, PORTRAITS, MSS., BOOKS, CURIOS, Etc., AT 1, Bloomsbury Street, London, W.C.

PORTRAITS IN OILS:

1.—Rev. Thomas Goyder.
b. Jan. 6th, 1786; d. Oct. 14th, 1849.
2.—Rev. Joseph Proud.
b. Mar. 1745; d. Aug. 3rd, 1826.
3.—Rev. Robert Hindmarsh.
b. 1759; d. 1835.
4.—Rev. Dr. Bayley.
b. July 10th, 1810; d. May 12th, 1886.
5.—Swedenborg.
b. Jan. 29th, 1688; d. Mar. 29th, 1772.
6.—Rev. Wm. Bruce.
b. Aug. 11th, 1799; d. Jan. 13th, 1882.
7.—Col. S. B. Bevington, V.D., J.P.
Late Commanding Officer 3rd Volunteer Battalion "The Queen's." First Mayor of Bermondsey, 1900–01, 1901–2. Reduced replica of portrait presented to Col. Bevington by the Borough Council.
8.—Rev. Thomas Child.
9.—Henry Butter.
10.—Rev. Samuel Noble.
b. Mar. 4th, 1779; d. Aug. 27th, 1853.
11.—Rev. Maskell Mills Carll.
b. Aug. 11th, 1799; d. Sep. 25th, 1856.
12.—Rev. E. D. Rendell.
13.—Swedenborg.
14.—Joseph Whittingham Salmon.
Early Pioneer Missionary.
15.—Swedenborg.
16.—Ralph Mather.
17.—Kahl, Achatius, Dean of Lund, Sweden.
Dr. J. F. Immanuel Tafel, Tübingen.
Mons. Auguste Harlé.
Mons. Le Boys des Guays.

WATER COLOURS, PORTRAITS, Etc.:

18.—Rev. Chauncey Giles.
19.—Swedish Chapel, St. George's in the East. By S. J. Hodson, R.W.S.
20.—Swedenborg, in Robes, House of Nobles.
Late Member of the House of Nobles in the Royal Diet of Sweden, Assessor of the Royal Board of Mines,

Fellow of the Royal Society of Upsala and of the Royal Academy of Sciences in Stockholm, and Corresponding Member of the Academy of Sciences of St. Petersburg. (Lent by Mr. Speirs.)

SCULPTURED BUSTS :

21.—Swedenborg, by Preston Powers.
22.—Rev. T. C. Shaw.
23.—Rev. Samuel Noble.
24.—Dr. J. J. Garth Wilkinson, by Leifchild.
25.—Sir Isaac Pitman. (Small.)

PHOTOGRAPHS :

26.—Thomas Watson.
27.—Dr. Henry Bateman.
28.—Rev. Augustus Clissold, M.A.
b. May 13th, 1797 ; d. Oct. 30th, 1882.
29.—Rev. William Rees, Llechrydd.
30.—Rev. John Presland.
31.—Dr. J. J. Garth Wilkinson.
b. June 3rd, 1812 ; d. 1889.
32.—John Finnie.
33.—Rev. Dr. R. L. Tafel, M.A., D.Ph.
34.—Swedenborg. (Full length figure, from study by Tholander.)
35.—Rev. David George Goyder, M.A., F.E.S.
b. Feb. 29th, 1796 ; d. June 29th, 1878.
36.—Baboo Dadoba Pandurung.
b. 1814 ; d. Oct. 17th, 1882.
37.—Rev. Augustus Clissold, M.A.
b. May 13th, 1797 ; d. Oct. 30th, 1882.
38.—Frame containing following seven Photographs of Russian adherents of the New Church :—
1.—Mme. Elizabeth Arsenieff.
2.—Princess Martha Schahoffskoy.
3.—Princess Elizabeth Schahoffskoy.
4.—Princess Augusta Schahoffskoy.
5.—Miss Pauline Holynska (Maid of Honour to the Empress of Russia).
6.—General Alexander Muravieff, who was associated with the freeing of the Serfs.
7.—John Muravieff.
39.—In one frame, two pictures, viz. :—
1.—William Cookworthy (photographed from a silhouette of the period).
2.—Residence of Mr. Cookworthy (as subsequently divided into two tenements). Pulled down in 1885.

40.—Sir Isaac Pitman.
b. Jan. 4th, 1813 ; d. Jan. 22nd, 1897.
41.—Rev. Dr. Bayley.
b. July 10th, 1810 ; d. May 12th, 1886.
42.—Rev. Thomas Chalklen.
43.—Baron Dirkinck Holmfeld (Denmark).
44.—Dr. J. J. Garth Wilkinson.
45.—Geo. Bush, A.M.
Professor of Hebrew in the University of New York. Born at Norwich, Vermont, June 12th, 1796 ; died at Rochester, New York State, Sep. 19th, 1859.
46.—Rev. Augustus Clissold, M.A.
b. May 13th, 1797 ; d. Oct. 30th, 1882.

ENGRAVINGS :

47.—Rev. John Clowes, M.A. Pencil drawing by John Flaxman. (Lent by Mr. Speirs.)
48.—Rev. John Clowes, M.A. Engraving.
49.—The Rev. Richard Jones.
50.—Swedenborg.
51.—Swedenborg. Crayon study by Wornum.
52.—Wadström and his Negro.
53.—Dr. J. F. Immanuel Tafel.
First Editor of Latin Editions of Theological Writings.
54.—Rev. David Howarth.
55.—Rev. Samuel Noble.
56.—Swedenborg.
57.—Rev. Manoah Sibly.
58.—Bishop Swedberg.

BOOKS, DOCUMENTS, AND CURIOS IN CASES IN LIBRARY :—

CASE A.—1. EXAMPLES OF SWEDENBORG'S WRITINGS IN EIGHTEEN LANGUAGES :

59.—*Heaven and Hell* in German.
60.—*Heavenly Doctrine* in Russian.
61.—*Heaven and Hell* in Polish.
62.— „ „ in Japanese.
63.— „ „ in Japanese (original manuscript of Daisetz Teitaro Suzuki).
64.—*Heaven and Hell* in Italian.
65.—*Doctrine of Life* in Esperanto.
66.—*Heaven and Hell* in French.
67.—*Divine Love and Wisdom* in Icelandic.
68.—*Heaven and Hell* in Latin.
69.— „ „ Hindi.
70.— „ „ Dutch.
71.— „ „ English.

72.—*Heaven and Hell* in Arabic.
73.— „ „ Welsh.
74.— „ „ Magyar.
75.—*Doctrine of the Lord* in Danish-Norwegian.
76.—*Heaven and Hell* in Swedish.
77.—*Heavenly Doctrine* (extracts) in Spanish.
78.—Small print portrait of Swedenborg. (Lent by Mr. Bragg.)
79.—Three photographs from original oil paintings representing Swedenborg holding a manuscript of the *Apocalypse Revealed*. (Lent by Mrs. Tafel.)
80.—Jesper Swedberg, father of Emanuel. (Lent by Mr. Bragg.)

CASE B.—1. THE WRITINGS OF SWEDENBORG:

81.—*Summaria Expositio Doctrinae quae per novam Hierosolymam in Apocalypsi intelligitur* (1749). A fly-leaf in this book has the following words in Swedenborg's handwriting: "Hic Liber est Adventus Domini Scriptum ex mandato" (2513) A.R. 626 (4535) (6895) (8427, p. 19). This volume originally formed part of Swedenborg's own Library. (Lent by Mr. Speirs.)
82.—The first translation of *Heaven and Hell* in English (1778) with a fragment of Swedenborg's Latin manuscript, thought to be a portion of the lost early numbers of the *Spiritual Diary*. (Lent by New Church Society, Bath.)
83.—*Vera Christiana Religio*, containing Martin's portrait of Swedenborg, and an inscription in imperfect English: "present from the Author," in the handwriting of Swedenborg. (Lent by Mr. Speirs.)
84.—Letter from Swedenborg addressed to Mons. Abraham Daniel Schönström (very faint) dated Stockholm, Oct. 24, 1727. (Lent by Mr. Speirs.)
85.—First English Edition of *True Christian Religion* (1781) with portrait in colour. (Lent by Mr. Speirs.)
86.—Photo-lithograph of Sebastian Schmidt's Latin Bible, used by Swedenborg, with extensive marginal notes of the Spiritual Sense, in Swedenborg's handwriting.
87.—*The Delights of Wisdom concerning Conjugial Love*, etc. Hindmarsh's Edition (1794). With portrait of Swedenborg.
88.—*Ludus Heliconius* (1826 Editio tertia). (Lent by Mr. Bragg.)
89.—*Förslag til wårt Mynts och Måls indelning* (1719). (Lent by Mr. Bragg.)
90.—*Arcana Cœlestia*, Vol. II, Latin ed. (1754), with Swedenborg's marginal notes and "Menander" on title-page. (Lent by Argyle Square Society.)

91.—Ditto. Vol. III. (Lent by Argyle Square Society.)
92.—*Principia* (1734), with authentic engraved portrait of Swedenborg and coat-of-arms as *Metallici Assessor*.
93.—A first edition of the *Regnum Animale* (1744).
94.—*Dædalus Hyperboreus* (1716).
95.—Early pamphlet entitled *Mary's better part* (1756). Swedenborg's autograph on cover. Translation. Also typewritten English. (Lent by New Church College.)
96.—*Lexicon Græco-Latinus* (1623) with the following written title-page: "Jesper Swedberg. 1674, May 5th. Em. Swedberg, 1700. 14 Sep." (Lent by Mr. Bragg.)

CASE C:

97.—*Heights of Water and Tides in Former Times* (1719, 2nd edit.) (Lent by Mr. Bragg.)
98.—*Heaven and Hell.* Latin, 1758. The first translation into English was made from this copy by Cookworthy and Hartley. (Lent by Mr. Speirs.)
99.—Swedenborg's coat-of-arms in colours.
100.—*Memorial*, 61 pp., dated Stockholm, Aug. 3rd, 1776, signed by Swedenborg and others. (Lent by Mr. Speirs.)
Ditto.—Folio, dated Stockholm, Jan. 28th, 1735, signed by Swedenborg and others.
101.—*Ludus Heliconius* (1716), second edition. (Lent by Mr. Bragg.)
102.—Bronze Tablet of Swedenborg by Geo. Wallis. (Lent by Mr. Speirs.)
103.—Memorial signed by Swedenborg and others, 23rd Dec., 1740.
104.—Contract for lease of farm, signed by Swedenborg as magistrate, and by others, March 3rd, 1748. (Lent by Mr. Speirs.)
105.—A small work on Algebra by Eman. Swedenborg (1718). (Lent by Dr. Whitehead.)
105½.—*New Jerusalem Magazine*, 1790, with impression set in binding from Swedenborg's own seal.
106.—Portrait of Swedenborg (engraved) with lithographed quotations from writings at foot.
107.—*Ludus Heliconius* (1714), Eman. Swedberg. (Lent by Mr. Bragg.)
108.—A reproduction of the Tablet in the Swedish Church, Princes Square. (Lent by Mr. Speirs.)
109.—*Dædalus Hyperboreus* (1716), Swedenborg. (Lent by Mr. Bragg.)
110.—*Prodromus*, 1734. (Boerhave's copy.) (Lent by Mr. Bragg.)

111.—Letter written by Swedenborg (Leipzig, 1734).
112.—*Försök at finna östra och westra Lengden igen igenom Månan*, with dedication addressed to Halley by E. Swedenborg, 1718. (Lent by Dr. Whitehead.)
113.—*The Earth's Revolution* (1719). (Lent by Mr. Bragg.)

CASE D:

114.—Swedenborg Medallion, presented to the Swedenborg Society by the Northern Museum, Skansen.
115.—Manuscript. A brief outline and historical sketch of the infant state of the New Church's establishment. Written by Manoah Sibley, N.H.S., 1837. (Lent by New Church College.)
116.—*Apocalypse Revealed*, 2 vols. 1791, with autograph of John Flaxman. (Lent by Mr. Bragg.)
117.—Manuscript translation of *True Christian Religion* into Swedish, 1796, by Rev. J. P. Odhner (2 vols.).
118.—Small bones Incus and Malleus, of Swedenborg's ear.
119.—Medal struck by the Royal Swedish Academy, Stockholm (1857).
120.—Medals, in bronze and silver, struck by Royal Academy of Sciences, Stockholm.
121.—Two English Medals (Eman. Swedenborg, Servant of Christ).
122.—Same as 114. (Two medals, aluminium and silver.) (Lent by Mr. Speirs.)
123.—Last Judgment. Hindmarsh's edit., 1788.
124.—Various sealed documents signed Carl von Linné (Linnæus). B. 1707; d. 1778. Swedenborg's remains have recently been placed in the Cathedral of Upsala opposite those of the great Swedish botanist. (Lent by Mr. Speirs.)
125.—Various sealed documents signed by Gustavus III, King of Sweden, who was born in 1746, and shot dead at a masked ball in 1792. A few lines signed by his murderer Ankarström are also attached. (Lent by Mr. Speirs.)
126.—Various documents signed by Charles XII of Sweden, 1700, 1710, 1718. (Lent by Mr. Speirs.)
127.—Portrait of Christina, "Queene of Swethland, Goths, and Vandals." (Lent by Mr. Speirs.)
128. Arcana, Royal copy, Part I (Tome 1), 1749. (Lent by Mr. Bragg.)
129.—Förslag til wårt Mynts och Måls Indelning (quarto size), 1719.
130. Ode printed in Stockholm on the death of Swedenborg, 4 pp. quarto (1772). (Lent by Mr. Speirs.)
131.—Eman. Swedenborgii, *Diarum Spirituale* (1843). (Lent by Mr. Bragg.)

132.—Letter mounted on folio card signed by Stanislaus, King of Poland, May 1st, 1705, and
Document signed Christina, the Queen of Sweden, daughter of Gustavus Adolphus, who abdicated the throne and became a Roman Catholic. (Lent by Mr. Speirs.)

133.—*Regnum Animale*, Emanuelis Swedenborgii, 1744. Names on fly-leaf, Ch. Aug. Tulk, Edw. H. Hart.

134.—*True Christian Religion*, 1781 (first English edition), 2 vols., 4to. With portrait by Martin. (Lent by Mr. Bragg.)

135.—Engraving of Swedenborg's portrait; author unknown. (Lent by Mr. Bragg.)

136.—Minutes of the early meeting of the New Church, at New Court, Middle Temple, London, May 7th, 1787. (Lent by New Church College.)

CASE E:

137.—Letter from S. T. Coleridge to C. A. Tulk. Presented to the Society by Col. Bevington.

138.—*Divine Love and Wisdom* (English edition). Marginal notes by Coleridge. Presented to S. T. Coleridge by C. A. Tulk, 1819. (Lent by Mr. Speirs.)

139.—*The Intercourse between the Soul and the Body.* Marginal notes by Coleridge. English edition. (Lent by Mr. Speirs.)

140.—*De Cultu et Amore Dei* (1745). Marginal notes by Coleridge. (Lent by Mr. Speirs.)

141.—*Œconomia Regni Animalis*, Swedenborg, 1740, with comments by Coleridge, and the names of C. A. Tulk and Edward Hart-Hart on the cover.

142.—*Arcana Cœlestia.* No. 1 of the first English edition, 1783. (Lent by Mr. Speirs.)

143.—*New Jerusalem Mayazine*, containing music by F. H. Barthelemon, author of the music of the well-known "Morning Hymn," 1790. (Lent by Mr. Bragg.)

144.—*Vera Christiana Religio*, 1771. Presented by R. Barthelemon to the Society at Fryar Street, Blackfriars, November 23, 1804. (Lent by the New Church, Argyle Square.)

145.—*De Amore Conjugiali*, 1768. The gift of Baron Emanuel Swedenborg to His Excellency Baron Nolckens, the Swedish Ambassador in London, who presented it to Francis Barthelemon, December 1785, who in his turn presented it to the Red Cross Street Society in 1795. (Lent by Argyle Square Church.)

146.—Manuscript. First translation into English of the *Apocalypse Explained*, vol. 5 (by Rev. Wm. Hill). Revised and re-written in his own hand by Rev. J. Clowes.

147.—First English translation of *The Divine Providence.* With W. Blake's notes and autograph. (Lent by Mr. Speirs.)

148.—*Traité du Commerce de l'Ame avec le Corps*, 1779. Manuscript translation by Moët from the Latin edition printed in London in 1769.

149.—Souvenir of the Banquet at Bishopswood, Highgate, residence of David Wynter, Esq., on February 26, 1910, in commemoration of the foundation of the Swedenborg Society on February 26, 1810.

150.—
151.— } Photographs of the Committee for the year 1909–10.
152.—

153.—Photograph of the Krafft portrait of Swedenborg.

MIDDLE WINDOW RECESS IN LIBRARY:

154.—Swedenborg's table, used by him while living at Shearsmith's, 25, Great Bath Street, Clerkenwell, London.

155.—Swedenborg's walking-stick, used while at Shearsmith's.

156.—A portion of Swedenborg's hair; also gold ring containing portion of Swedenborg's hair. (The ring lent by Mr. Speirs.)

157.—Photo-lithograph of Schmidt's Bible, used by Swedenborg, with marginal notes in his handwriting.

ON THE LARGE TABLE (LIBRARY):

PHOTO-LITHOGRAPHS OF SWEDENBORG'S ORIGINAL MANUSCRIPTS—

158.—*Diarum Spirituale* } 3 folio vols. (phototyped).
159.— „ „ }

160.—*Regnum animale* (photo-lithograph).

161.—*Transactiones de Cerebro* (photo-lithograph).

162.—*De Cultu et Amore Dei* (photo-lithograph).

163.—*Mathematica et Principia* (photo-lithograph).

164.—*Physica and Mineralogica* (Flying Machine).

165.—*Miscellanea Theologica.*

166.—*Apocalypsis Explicata* (2 vols.).

167.—*Summaria Sensus Interni Prophetarum et Psalmorum.*

168.—*Regnum Subterraneum sive Minerale*, etc.

169.—*Clavis Hieroglyphica Arcanorum.* Hindmarsh's edition, 1784.

170.—Removal of Swedenborg's remains, 7–8 April, 1908. (Lent by Rev. J. Deans.)

171.—A Chronological Account of the Writings of Hon. Em. Swedenborg. (Lent by New Church College.)

172.—Ode for the Swedenborg Society's Anniversary Dinner, 1811. (Lent by New Church College.)

173.—Oil painting of Swedenborg. (Lent by Mr. Bragg.)

RICHARD CLAY & SONS, LIMITED,
BRUNSWICK STREET, STAMFORD STREET, S.E.,
AND BUNGAY, SUFFOLK.